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GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as an indication that they are necessarily available for export

DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 *of* 1940, *and No.* 359 *of* 1941

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

U.S.A. Trade Pact with Argentina

TRAFFIC prospects of railway companies operating in Argentina should be improved by the trade agreement which has been signed between the U.S.A. and Argentina. It is the first commercial arrangement between the two countries since 1852, and is designed to improve trade relations not only during, but also after, the war. Argentina has granted concessions, in the form of reductions of tariffs or agreement not to raise tariffs, to the United States on 127 products which in 1940 amounted to about 30 per cent. of the total United States exports to Argentina—about $32,000,000 out of $106,000,000. On the other hand, Argentina has obtained reductions in, or the assurance of the existing tariffs on, 84 products which in 1938-39 accounted for about 93 per cent. of her total exports to the United States. As to the effect which may be expected on British-controlled railway and other companies operating in the Argentine, in theory dollar receipts will not directly free funds for remittance to this country, but indirectly it is probable that sterling balances will be assisted if only as a result of a reduction in exchange losses. It is believed, moreover, that there is a chance that the bilateral agreement just concluded may become a tripartite pact including the United Kingdom. In any event the stimulation of an increased volume of trade between the two countries must make for a greater movement of a large variety of goods, and therefore for greater railway traffics.

Spanish Public Works Planning

An ambitious ten-year public works scheme has recently been approved in the form of a Decree-Law by the Spanish Cabinet. Giving details of the scheme the Minister of Public Works, Señor Alfonso Peña, said that special attention would be paid to roads, so that no first class roads should be less than 9 metres (29 ft. 6 in.) wide. By next year all remaining level crossings should be eliminated. Besides road improvements, the scheme includes the regulation of river waters and control of floods by means of dams, providing also for increased power and irrigation. A large reservoir is already being constructed at Reinosa and this, with others to be built in the affluents of the River Ebro, should avert the danger of floods occurring between Zaragoza and Tortosa. Two large dams are also to be constructed at Entrepeñas and Buendia, on the River Tagus. The scheme includes extensive port and harbour works, with additional lighthouses and other maritime installations round the coast, and the entire plan should be completed within ten years. The carrying out of all these works, besides being to the benefit of the country generally, will, it is hoped, mitigate unemployment. The Ministry of Labour has recently granted nearly 3,000,000 pesetas to local authorities, with this object.

Cuban Railway Results

Operating results of Cuban common-carrier railways during 1939-40 showed a satisfactory improvement over the preceding year. Freight carried increased by 16·5 per cent. and amounted to 16,859,819 metric tons, against 14,471,508 tons. All companies except the Guantanamo Railway showed higher totals of freight handled than in 1938-39. Almost 64 per cent. of all freights consisted of sugarcane, while 23·6 per cent. consisted of raw and refined sugar and sugarcane products. Passengers carried by the railways totalled 6,133,692, against 5,828,312 during 1938-39. Improvement in passenger traffic was due in part to the increased use by the public of cheap week-end excursion tickets and a reduction in through fares from Habana to Santiago de Cuba. Total operating revenues of all companies increased 952,309 pesos, or 6·5 per cent. during 1939-40 and totalled 15,676,240 pesos, against 14,723,931 in the preceding year. Operating expenses, on the other hand, decreased slightly and totalled 13,986,846 pesos during the financial year under review, compared with 14,195,083 in 1938-39. The net operating profit for 1939-40,

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therefore, amounted to 1,689,394 pesos, compared with 528,848 in 1938-39.

Resourcefulness

An example of rapid adaptation to unforeseen developments has recently been provided by the Western Maryland RR. of the U.S.A. In the latter part of April last a cement company gave notice that on May 9 it would begin dispatching from its plant at Union Bridge, Maryland, a large volume of cement for shipment at Newport News, Virginia. The railway company's fleet of covered hopper cars was already working to capacity; 40 new cement cars on order could not be delivered for some months; and none could be borrowed. A bare fortnight remained in which to make preparation. The Western Maryland management therefore decided to adapt 30 of its latest open coal hopper cars to carry cement. Each car was provided with a tarpaulin cover, supported on a roof of 5 in. × 1½ in. timbers, and secured with ropes to rings welded at intervals on to the car sides. The insides of all the hoppers were sandblasted and all scale removed, so that the cement would slide easily in unloading; and any leaks in the cars disclosed by water testing were closed by welding. The W.M.RR. shops put through this work in record time, and the cars were ready two days before the loading of cement began. This is but one way in which this progressive company has been preparing to meet in advance national defence demands. Many improvements have been carried out at Port Covington, Baltimore, the principal W.M.RR. shipment point, and 12 new articulated locomotives of the 2-8-0+0-8-2 type, which have shown themselves capable of handling trains up to 10,500 English tons in weight up long continuous grades of 1 in 167 (and the empties up 23 miles at 1 in 57 in the reverse direction), have done much to ease the haulage problem.

York Railway Museum

The many thousands of persons who have at one time or another visited the L.N.E.R. Museum at York will learn with interest that the majority of the most historic and valuable exhibits have been removed to places of greater safety and now these relics of early railway endeavour remain in lone sidings, sheds, and warehouses until the war is over. The photograph we reproduce at page 414 shows a fine example of early railway coach work used on an ancestor of the L.N.E.R., namely, the Stockton & Darlington Railway, which celebrated its centenary in 1925. The combined first and second class accommodation in one coach is a reminder of semi-feudal days when the squire and his lady, if travelling, took their personal servants along with them and housed them on each side of their first class compartment. In those days the guard in his red coat sat on the roof (his hand supports and foot rest can be seen in the picture); illumination was supplied by oil lamps; the luggage went on the roof; and the brake was applied, when necessary, by the guard climbing down and pressing the lever with his foot. The whole design shows the influence of the stage coach era, and the comfort of the first class compartment, with its discreetly curtained windows, was of a very high order for its period.

"Largest Station in the World"

From time to time the question is asked as to which is the largest passenger railway station in the world, and we have more than once pointed out that such a question is impossible of simple reply unless a basis of comparison is laid down. The total covered area, total lengths of platform faces, density of traffic, and so forth, may be selected as such a basis, but the answer will vary according to which one is adopted. So far as concerns the density of traffic, we believe that the record of being the largest passenger station in the world is still held by Flinders Street station, Melbourne, Victoria, where 16 platforms are in constant use, and the total face length is 1¾ miles. According to a tally taken in 1934 some 2,070 electric trains and 122 steam trains passed through or left this station every day, and the total number of passengers passing through the barriers at that time was 282,426, compared with 210,273 in 1914. To operate the suburban services from this terminal 52 trains were required during the slack periods of the day; 41 additional trains were put into use for the morning peak period from 7.30 a.m. to 9 a.m.; and 47 additional trains for the evening peak from 4.30 p.m. to 6.30 p.m. Recent figures are not available, mainly because the Victorian Government Railways decided some time ago to avoid publication of statistics (compiled from time to time) which might provide a basis for a "world's largest" claim that invariably involved the railway administration in correspondence concerning counter-claims.

Testing by Microscopy

The constant tendency towards greater refinement in the testing of materials is well illustrated by a recent sub-committee recommendation to the Association of American Railroads concerning specifications M-101-39 and M-102-40, which cover carbon steel for cars and locomotive tenders, and annealed and unannealed carbon steel forgings, respectively. It is proposed that microscopic tests shall be made from each annealing charge. The sections for this purpose shall be cut from the large undistorted portion of tensile test specimens in such a way as to give one face normal, and one face parallel to the axis of the specimen After polishing, the transverse face is to be etched with a 4 per cent. solution of nitric acid in alcohol, and the longitudinal face to be left unetched. Under the microscope the whole of the transverse section will be required to show uniform, well broken up, fine grained structure, and only one irregular mesh as large as ½ in. dia. will be permitted in a field of 3 in. dia., at a magnification of 100 diameters. The longitudinal face will be examined, for information only, as to the location of solid non-metallic inclusions, and should show the latter, if present, well scattered over the field. As this amendment has not yet gone beyond the stage of recommendation, the reaction to it of the manufacturers is not as yet revealed. Another proposal of interest, affecting Specification M-105-34 for blooms, billets, and slabs for forgings, is that cutting or parting of material by flame cutting shall only be done by methods which use suitable pre-heating and temperature control, in order to avoid damage to the flame-cut surface.

Entry of North Shore Trains into Chicago

In our review of high-speed American interurban services, published at page 82 of our Electric Traction Section for July 25 last, we remarked that the two lightweight Electroliner 4-car articulated trains, introduced recently by the Chicago, North Shore & Milwaukee Railroad, use street tracks at the downtown extremities, considerably reducing the high average speed which would otherwise result from the high intermediate speeds attained in skirting the shore of Lake Michigan between Chicago and Milwaukee. An American correspondent points out, however, that this is not strictly correct so far as Chicago is concerned, as the North Shore trains enter it over the elevated tracks of the Chicago Rapid Transit Company. This results, of course, in some slowing of the speed of the North Shore trains because of the dense rapid transit traffic on the elevated lines, but the restriction is not so severe as if the North Shore trains were to use street tramway tracks in Chicago. Southward from Howard Street, at the northern edge of Chicago, the North Shore trains collect current from the third rail of the Chicago Rapid Transit lines instead of from an overhead wire, as elsewhere.

Free Exhaust and Power Increase

During the past seven or eight years we have given considerable prominence to the great power increment obtainable by fitting adequate exhaust pipes and a blast pipe giving low back pressure. In its modern sense, this improvement

dates from the fitting of the Kylala blast pipe in Finland and the introduction of the Kylchap system in France, particularly on the rebuilt Pacifics and 4-8-0 locomotives of the P.O. Railway. The Kylchap, Lemaître and other simpler types of single- and multi-nozzle blast pipes, always with improved petticoat layout, have given the same excellent results elsewhere in France, in Belgium, and in England, particularly on the Southern Railway and the L.N.E.R. Confirmation of the great increase in power by better exhaust and draught equipment was obtained some years ago on the Wabash Railroad, in the U.S.A., where the fitting of an annular-ported nozzle and a modified petticoat increased the cylinder horsepower of a 4-8-2 engine by 35 per cent. at 40 m.p.h. On the railways of the U.S.S.R. tests made between two types with identical boilers, but one having a plain circular blast pipe and the other four nozzles covering separate exhausts from the right and left cylinders, showed that the maximum evaporation was 16 per cent. higher for the second arrangement. There was a corresponding reduction in the back pressure and the steam consumption was reduced by 10 per cent.

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Locomotive Thermal Efficiency

Tests made six or seven years ago in Germany showed that drawbar thermal efficiencies up to 10 per cent. could be obtained with the best steam locomotives working under test conditions, and as far as we are aware this figure has never been exceeded with locomotives of normal type. The generality of steam locomotives has drawbar thermal efficiencies well below 10 per cent., and under everyday working conditions barely 7 per cent. probably represents the limit of the best modern types. Gradual improvement has been made over the last ten years or so, but designers are now up to what may be termed the flat part of the curve, where each half per cent. increase in drawbar efficiency is much more hardly gained than the preceding half per cent. On the other hand, the drawbar figure is influenced by conditions quite outside bad or good design, *e.g.*, the size and weight of the tender, which are governed almost entirely by local operating requirements. But the locomotive is primarily a traffic machine, not a travelling thermodynamic exhibit, and its overall performance is governed far more by its ability to give uninterrupted service at low maintenance and capital costs than by a saving in fuel, although attainment of the latter should by no means be discouraged.

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Incentives to Travel

In this country the exigencies of the war have resulted in a great influx of female labour into our transport organisations, but, without in any way wishing to belittle their personal attractions, it may be said that the standard which has been applied in their recruitment has been their utilitarian value rather than any other. In the United States, on the other hand, presentable young ladies are being used by the alert air lines as " traffic solicitors." Those selected, we read, must be " comely, have a college education, and be from 22 to 30 years of age." The embryo solicitor is given six months of training in aeroplane operation, public speaking, and fashion information before she is turned loose on prospective victims. Hunting grounds are to embrace not merely the haunts of individual men, but luncheon groups and other gatherings of males calculated to be particularly susceptible to this new type of sales argument. The implications of an onslaught by an attractive and carefully coached " comely solicitor " upon the tired business man of this country hardly bears thought. Despite his tiredness he may find himself travelling from one end of the country to another reflecting too late, not only upon the needlessness of the journey from a practical viewpoint, but on the difficulty of devising a satisfactory story on his return. It is to be hoped that, whatever the traffic position may be after the war, the British railways will not let loose among us these attractive creatures whose appeals to travel can be disregarded more easily while they are confined to poster representation.

The Swedish State Railways

THE Swedish State Railways record a considerable increase in their profits for the first six months of this year, as compared with the same period in 1940, though the increase in fares and rates which took place when a number of privately-owned railways was taken over on July 1, 1940, has had an adverse influence. The figures given below illustrate the financial development in the first half of 1941, as compared with the same months of 1940; the amounts are in million *kronor*.

	First six months of 1940	1941	Percentage increase
Working receipts	159·0	198·1	24·6
Working expenditure	117·1	141·6	21·0
(Of which renewal fund accounted for) ...	12·0	13·8	—
Working excess	41·9	56·5	35·5
Allowance for interest on State loan	17·3	19·1	—
Profit	24·6	37·4	52·0

In a survey recently published in Sweden, relating to the period 1916-1940 and embracing all the Swedish State undertakings, it was pointed out that, during the years 1916-1920, when economic conditions in Sweden were critical, the State Railways were last among the State enterprises, with a deficit of Kr. 1,980,000. In 1940, however, the State lines, with a profit of Kr. 93,560,000, held a leading position among the State administrations. The period 1936-1940 shows steadily increasing figures for the volume of traffic over the State system. In 1936 goods traffic, not including that over the Lapland ore railway, totalled 10,440,000 *tonnes*, paying loads 1,800,000,000*tonnes-km.*, and a daily average of 1,115 loaded goods wagons. In 1940 these figures had increased to 15,430,000 *tonnes*, 3,760,000,000 *tonnes-km.*, and 1,466 goods wagons daily. When considering these results, it must be borne in mind that the route-mileage of the State Railways increased from 4,673 miles (7,525 km.) in 1936 to 5,586½ miles (8,996 km.) in 1940, that is by about 20 per cent., largely owing to the successful incorporation of privately-owned railways.

In 1940 the performance of the State Railways, measured in *tonnes-km.*, exceeded by 110 and 83 per cent. the results obtained in 1936 and 1938 respectively. This is the more noteworthy in view of the shortage of rolling stock which was already apparent in 1938, as well as the insufficiency of double track sections and the limited goods yard accommodation, all of which was a consequence of the very conservative financial policy of the administration. The coaching stock was also taxed to capacity by the 20-25 per cent. increase in passenger traffic in 1940, as compared with 1938, but the extension of electric traction, which made possible a higher frequency of train services, as well as a quicker turn-round of the rolling stock, helped to keep the traffic situation well in hand. The increase in the volume of goods traffic, which is partly due to the services undertaken in connection with the country's defence preparations, is referred to in greater detail at page 423 of this issue.

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Lords Debate on Railways

THE avowed object of Lord Monkswell's motion in the House of Lords on October 14 was to draw attention to the need for the inclusion of railways in the Government's plans for the post-war period, but in fact the debate ranged over wider ground. Few matters of importance emerged from the discussion, which was confined to three members of the Upper House ; Lord Monkswell, whose interest in railway matters is well known, Lord Balfour of Burghley, who is a Director of the London & North Eastern Railway Company, and Lord Leathers, Minister of War Transport. There can, of course, be no gainsaying Lord Monkswell's contention that because of the present financial arrangements between the Government and the railways the former becomes directly interested in railway efficiency. It is obvious, too that, in any postwar planning, the transport system of this country, of which the railways are the backbone, must play an important part, and that without due attention to the facilities and capacity of actual and potential transport it would be impossible to draw up a comprehensive plan. On the historical aspects of railways mentioned by Lord Monkswell it must not be overlooked, as Lord Balfour pointed out, that they

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suffered from the fact that they were pioneers, and no doubt this was in large part responsible for some of their troubles. Although there may have been little external competition for the railways to face in those days there was certainly no absence of it among themselves, nor can one agree that the developments and improvements which took place within the 10 years previous to the outbreak of the war might just as easily have been put in hand in 1850. Scientific and industrial progress has increased in geometrical progression with the passage of years, and many of the improvements in the technical efficiency of the railways which have been made have been based on inventions which had not seen the light of day 90 years ago. Moreover, it was as late as 1923 that the railway industry of this country was welded into four cohesive groups; and before then there was a long period of uncertainty while the Railways Act, 1921, was being evolved and during which time there was little incentive for individual companies to indulge in capital expenditure. It is pertinent to ask, too, what major developments, other than the introduction of high-speed trains, took place in the ten years before the war which did not have their beginning in the previous ten years.

Lord Monkswell's emphasis on the importance of punctuality is a matter which has been ventilated frequently in the columns of THE RAILWAY GAZETTE. His suggestions for the improvement of the thermal efficiency of the steam locomotive appear to overlook the fact that it may be more useful to have a large number of locomotives with a lower thermal efficiency than the optimum, but which give a good average efficiency and are easy to maintain and keep in service; this is particularly true, of course, in a country such as ours with its vast indigenous coal resources. His suggestions for the use of longer rails touches on an important matter which is the subject of experiment but which must take time to reach the stage of practicability. Lord Balfour of Burghley had some interesting comments to make on this subject and he was also able to show that the total expenditure in the ten years to 1938 amounted to no less than £260,000,000, which is a sufficient proof of the desire of the railways to secure an increased efficiency by all possible means. Lord Leathers, too, pointed to the fact that under the Railways (Agreement) Act of 1935 the four main-line companies had expended over £16,000,000 up to September, 1939, and the London Passenger Transport Board some £23,000,000 on new works involved in schemes for speeding up traffic and generally improving railway facilities in the country. These figures are a sufficient indication of the steps that the railway companies are ever ready to take when finance is available to them.

The Tehuantepec Strategic Railway

A RECENT order of the Mexican Government which was recorded at page 249 of our September 5 issue provides of the immediate reconstruction and modernisation at a cost of 12,000,000 pesos of the Tehuantepec National Railway, running across the isthmus of Tehuantepec and connecting the Atlantic and Pacific seaboards, increasing the line capacity to 80 trains a day by laying 112-lb. rails, reinforcing the roadbed, and improving the yards. The considerations are mainly strategic as it is felt that this line will provide a valuable means of communication alternative to the Panama Canal for the transport of war materials including large quantities of Californian oil. Military and diplomatic circles in Mexico City regard the decision as an important step in the political co-operation between the U.S.A. and Mexico for the defence of the Western Hemisphere. This line which is 310 km. (193 miles long), of standard 4 ft. 8½ in. gauge with bridges and steel structures of modern type, and runs from Salina Cruz on the Pacific to Puerto Mexico on the Atlantic coast, has had a very long and chequered history. In 1824 three years after Mexico achieved its independence, the Government engaged contractors to open a rail route across the Tehuantepec Isthmus, and the dictator, Santa Anna, granted a concession to José de Garay to build a transport link by land and water from coast to coast. The concession was amended in 1846, and in 1848 was sold to the British firm of Manning & Mackintosh, which was unable to finance the project and assigned it to Peter A. Hargous, of New York in 1849. The Tehuantepec Railroad Company, of New Orleans, was then incorporated in Louisiana, and a survey was made in 1850 under the direction of John G. Barnard and T. T. Williams. An elaborate report of this survey was published in 1852, but in 1851, before construction work could be begun, the Mexican Government had declared the concession void.

The result of this action was to divert the attention of promoters to a rival line, and a railway was built across the Isthmus of Panama during the period 1850-1855, thus making it more difficult to obtain capital for the Tehuantepec project. Nevertheless, further attempts were made by the Mexican Government to solicit proposals, and on February 5, 1853, a second concession was issued to the firm of A. G. Sloo & Co., composed of Americans and Mexicans. This was declared forfeited in 1857. In 1857 an additional concession was granted to the Louisiana Tehuantepec Company of New Orleans, which was to construct a transport route across the Isthmus, using as far as possible the waters of the Coatzacoalcos River and connecting the rest of the distance by rail. This concession was amended in 1859 and 1860 and the company obtained permission from the Maximilian Government to change its name to the New York-Tehuantepec Steamship & Railroad Company. On October 15, 1866, after the fall of Maximilian, the concession was forfeited and transferred to the Tehuantepec Transit Company, controlled in the United States, which in turn lost it through forfeiture in 1867. The next concession was granted on October 6 1867, to Émile La Sère, an American, as agent of the Tehuantepec Railway Company incorporated by Simon Stevens in Vermont. This was amended in 1869, and on December 14, 1870, the construction of a canal was authorised.

Construction work on a railway was begun in 1870. Both the railway and canal concessions were renewed on May 22, 1872, and a subsidy was granted in 1874 to the Tehuantepec Railroad Company, but in 1878 both La Sère concessions were declared void. In 1878 the Diaz Government granted a concession to Edward Learned, of New York, for the construction of the Tehuantepec Interoceanic Railroad, with the condition that work was to be completed within three years and three months. The Government was to pay him a sum of 7,500 pesos per km. of road built. In 1881, after 35 km. had been constructed, the Government suspended the concession, paying the concessionaire the 127,000 pesos and $1,500,000 to which he was entitled in accordance with the contract. Later the Mexican Government decided to begin work on its own account. A contract was finally made with Don Delfin Sanchez stipulating that all payments depend solely upon the financial condition of the Federal treasury. This new attempt failed after 66 miles of track had been built, and 1,434,135 pesos paid to Sanchez. In 1882 a new contract was made with Edward McMurdo, of London, to complete the railway, and a loan of £2,700,000 (13,500,000 pesos) was obtained in Berlin and London to carry out this project, but because of the death of the contractor the work was not completed. New arrangements were then made with Chandos S. Stanhope, an American, J. H. Hampson, and E. L. Corthell to complete the railway with the remainder of the loan, which by then had diminished to 2,000,000 pesos Because of lack of funds this contract was dissolved by mutual agreement in 1892.

A new loan was negotiated in 1893, and on December 6 of that year a contract, under which the line was to be completed within 15 months at a cost to the Mexican Government of 19,181,174 pesos, was made with Stanhope alone, as his partners had withdrawn. He finished the construction on October 15, 1894, and it became necessary for the Government to decide on the method of operation, and to provide adequate terminal ports and equipment. Congress authorised the Government in 1896 to enter into a contract with a private firm to work the railway, and in 1898 and 1899 contracts were entered into with S. Pearson & Son Ltd, the British company already well known in Mexico for the completion of the drainage of the valley of Mexico and Vera Cruz port works, to improve the roadbed and construct port works. On May 16, 1902, an additional contract for 50 years was made, whereby S. Pearson & Son Ltd. agreed to operate the railway

and the ports in partnership with the Mexican Government. The partnership had a nominal capital of 5,000,000 pesos, of which each party contributed half. It was agreed that profits should be divided as follows: During the first 36 years, 65 per cent. for the Government and 35 per cent. for the managing company; during the next five years, 68·5 per cent. for the Government; during the five years after these, 72·5 per cent.; and during the last five years 76·5 per cent. for the Government and the remainder for Pearson & Son. During changes of Government the road remained a separate unit until December 31, 1917, when the Senate passed a Bill for the cancellation of the contract. Although this did not become a Law until January 19 of the next year, the formal dissolution of the partnership was made on December 18, 1917, by the Assistant Secretary of Traffic & Communications, representing the Mexican Government, and Frederick Adams, representing S. Pearson & Son Ltd. Provision was made for an indemnity of 7,500,000 pesos to be paid to Pearson & Son for the dissolution of the partnership. The Mexican Government then took over the railway and its liabilities, and immediately placed it under the administration of the National Railways of Mexico which operated the line until June 30, 1924, when it was turned over to the Board of Directors of Free Ports, of the Department of Communications. We are indebted to a report on the railways of Mexico, prepared some years ago by the U.S.A. Department of Commerce, for many of the details of this railway which, after years of quietude, has once again assumed strategic importance.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Smart Work

146, Towncourt Lane,
Orpington, Kent
September 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—One of the most singular examples of wartime priority for goods traffic occurred recently at the Eastern Section station at London Bridge, when a Ferme Park—Hither Green goods train was passed through at the height of the evening rush hour. The 5·55 p.m. Charing Cross to Slades Green and the 6.3 Cannon Street to Hayes are booked to call at London Bridge (Platform 2) at 6.1 and 6.5 respectively. The Slades Green train having left to time, regular passengers for Catford Bridge and beyond were taking their accustomed places at the platform edge, with the thought that the next train to arrive would convey them homeward. But on this particular evening there appeared not a multiple-unit electric train with the reassuring headcode H, but an unwelcome intruder in the shape of L.N.E.R. "N1" class 0-6-2T, No. 4597, not exactly in a state of high polish, but very fit internally, judging by the able-bodied sound of her exhaust as she took No. 2 road in full cry. Her passage was observed by the waiting multitude with ill-concealed astonishment, but she cleared the section so quickly, still gathering speed, that the 6.5 to Hayes, running quietly in a few moments later, was still able to leave on time. No. 4597 was given a clear road as far as the junctions at New Cross, where she was held on the down fast to allow not only the Hayes train, but the 6.5 Cannon Street to Sevenoaks to pass through from the relief line. Considering that, in the ten minutes immediately following six o'clock there are no fewer than eight departures in the down direction from the Eastern Section station (and, incidentally, a further seven from the terminal platforms, which are controlled from the same box), and that none of these passenger trains was in any way delayed, the whole episode would appear to be a remarkable example of smart working under exacting conditions.

Yours faithfully,

S. LUCAS

Railways and "Suburban" Traffic

Drakewell House,
Bow Brickhill,
Bletchley, Bucks.
September 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The term "suburban" as construed by the railway companies, more especially in connection with residential traffic, would seem to be somewhat elastic, and it is being revived in an acute form by the measures now adopted for eliminating first class accommodation from many of the trains. When places like Bedford and Bletchley—respectively 49 and 46½ miles from London—are included in the suburban area, it is difficult to estimate the ground on which such a computation is made.

Apart from the fact that many miles of open, unspoilt country of an extremely rural character separate these places from the Metropolis and that, even now—the grid system notwithstanding—there are villages without electric light or other amenities, there is the fact that several of the long-distance expresses to and from the Midlands and the North take an hour or more to reach these places non-stop.

According to Webster's dictionary a suburb is "an outlying part of a city or town: a smaller place *immediately adjacent* to a city." The Oxford dictionary interprets the word as meaning a place "lying *immediately outside a town or city* adjacent to its walls or boundaries." If Bedford and Bletchley are suburbs then surely St. Albans and Watford should be regarded as part of London and be ranked as N.W.—or at the most as outer suburbs.

Yours truly,

CHAS. S. LAKE

PUBLICATIONS RECEIVED

Costing and its Application to Government Contracts.—This brochure has been published by the Engineering Industries Association, primarily for private circulation among its members, but we understand that copies, price 2s. 6d., may be obtained from the offices of the associaton, 39, New Broad Street, E.C.2. It contains a summary of an address by Mr. S. J. Noel-Brown, President of the Society of Incorporated Cost Consultants, and its object is to help in the solution of problems in relation to Government contracts, and has particular reference to Ministry of Aircraft Production procedure. Various types of contracts are considered, and such matters as definition of costs, investigations, overhead charges, methods of calculating profits, and so forth, are dealt with in some detail. There is a useful appendix containing answers to practical questions.

Visual Inspection Simplified.—Description of the Spectifier, a practical and simple device for inspecting the finish on screw machine parts and similar work, is contained in a leaflet published by the Selson Machine Tool Co. Ltd., of Abbey House, Westminster, S.W.1. With a wide diameter lens, it allows both eyes to make a critical inspection from all angles and at casual distances with virtually no strain, while the light source of the apparatus provides efficient and uniform illumination. This combination of constant lighting and magnification obviates discrepancies, such as arise when one man relies on a jeweller's glass, another on a low-powered reading glass and a third on his "good eyesight." No focusing devices or holders are required, and the streamline design permits work to be passed rapidly under the glass, speeding up inspection and assuring uniform quality of work.

XUM

THE SCRAP HEAP

...—

V TICKETS ON AN U.S.A. RAILWAY

Red, white, and blue railway tickets cut in the form of a victory V were placed on sale at stations in Camp Devens, Mass., and Ayer, beginning on August 25. These tickets are issued to cover afternoon and evening special fare round-trip excursions to and from Boston for both uniformed men and the general public. One arm of the V acts as the " up " trip and the other as the " down " or return one.

* * *

Another railway company has arrived at the wise determination to abolish the second class. The directors of the London, Tilbury & Southend Railway Company notify their decision to discontinue the issue of second class tickets to and from Pitsea, Benfleet, Leigh, Southend-on-Sea, and Shoeburyness stations on and after January 1, 1893. They have also decided to abolish the running of second class carriages in their trains, and to discontinue the issue of second class tickets to and from all stations on their railway and to and from other railways running in connection therewith after March 31, 1893. Third class tickets will be issued by all trains on the London, Tilbury & Southend Railway on and after January 1, 1893.—*Extract from " The Railway Times " of December* 31, 1892.

* * *

At Dublin Docks recently dockers unloading the cargo of the L.M.S.R. steamship *Slieve Bawn* heard knocking inside one of the crates. On opening it they discovered a Frenchman, half conscious. The crate had a false bottom and the man was lying inside in an upside down position. The crate also contained pictures consigned to a Dublin art shop. It was learned later that the man's name is Maurice Carassun de Loubagac, about 40. He is believed to be a Paris painter, and a former member of the French Air Force.

* * *

The maintenance of the delivery of Britain's eleven million daily papers in every part of the country during the worst of the London raids was described to the Brighton Rotary Club recently by Mr. W. O. Birkbreck, Chairman of the Daily Circulation Managers' Committee of the Newspaper Proprietors' Association. Mr. Birkbreck said that they were all very proud of maintaining a great organisation without missing a single train or of disappointing a single reader. In the course of his talk, Mr. Birkbreck related how on one tragic night vans were blown up and van drivers were flung from the seats, and railway staffs had to improvise all sorts of services for the newspaper trains, yet all Britain had its newspapers the next day as usual. Two days later one Fleet Street editor received a letter, stating: " Dear Sir,—My paper was three hours late. This won't do." Mr. Birkbreck ended by paying tribute to the magnificent spirit of co-operation by newspaper staffs of every grade, to the railways and wholesale newsagents, and, above all, to retail newsagents, in maintaining Britain's great news service.

* * *

The London & North Western Railway Company in reopening its branch line from Mold to Coed Talon, in Flintshire—which has been closed to passengers for some years—has issued a notice intimating that no second class tickets will be issued, and that the carriages of the company on that branch will be provided for the use of first and third class passengers only.—*Extract from "The Railway Times" of January* 9, 1892.

* * *

Major Lloyd George, Parliamentary Secretary to the Ministry of Food, in reply to a question in the House of Commons on October 15, stated that the Ministry's expenditure on advertising in the Press from October, 1939, to August 31, 1941, was approximately £570,000.

* * *

PAPER WAR

Ever thicker grows the snow-storm of official paper. The humblest farmer in the hills, coming back from his fields in the evening, must bend his brow over the latest batch of forms which have arrived during the day to warn him, instruct him and demand information from him. The busiest executive in the biggest factory turns from the last Government inspector to fill up the newest Government questionnaires. . . .

But such are the ways of Whitehall. It is in the firm and earnest belief that everything must be documented to the last useless detail and then wrapped round with lashings of red tape that the devoted Civil Service has increased its numbers from 360,000 to nearly 600,000 since the war for freedom began. . . .

Everywhere the citizen turns—or tries to turn—he sees the officials working like swarms of dignified and well-paid ants. The Ministry of Information has 1,700 of them, industriously doing something that nobody has ever quite made out. At the Ministry of Economic Warfare 1,162 of them daily sort out the documents which allow Mr. Dalton to tell us that Hitler's petrol tanks are running dry. From the Ministry of Food, which had 27,919 of them at the last counting of heads, comes to-day the luminous remark that a more ample supply of dried fruits for Britain must depend on whether ships will have to be diverted to take tanks to Russia.—*From the " Evening News."*

* * *

From the beginning railways showed themselves so far superior to any other form of inland transport that no competition was possible. In these circumstances there quickly grew up a race of railway officials whose dominant idea was to secure for themselves a quiet life, with the least possible amount of change and development. They succeeded so well that, though it cannot be said that development ceased altogether, its pace for fully 80 years was so desperately slow that all sorts of unfortunate results followed. . . .

Railway shareholders were extremely badly served by the managements, who failed to organise them for their own protection or to give them any governing power. The only attempt to do anything at all was that of Mr. William Whitelaw who, so far as I can remember, as Chairman of the Highland Railway at a general meeting at Inverness, invited his shareholders to pay voluntary subscriptions for the protection of their own interests. Your Lordships may think that to ask a Scottish meeting to subscribe a large sum of money for a vaguely specified object was hardly the way to launch a serious campaign. Anyhow, Mr. Whitelaw's idea came to nothing. —*Lord Monkswell speaking in the House of Lords on October* 14.

* * *

November 1, 1852.—A serious accident occurred at the Brighton railway station at Redhill, occasioned by the ten o'clock express train from Brighton running transversely into a " pick-up train." The pick-up was being shunted from the down line to the up, prior to its being run into the siding, at the time when the express was over-due. The engine and tender of the latter were crippled, four of the carriages were much shattered, and a great number of the passengers were seriously injured; and the results would have been probably more disastrous, but for the gallantry of the driver and guard, who kept the breaks hard down to the moment of concussion, and thus as far as possible lessened the shock. As the carelessness of the driver of the pick-up train, and of some of the officials at the station, was palpable, four persons were taken into custody; and, on November 2, they were committed by the Surrey magistrates to the Wandsworth House of Correction for two months with hard labour.—*From the " Companion to the British Almanac " for* 1853.

* * *

David Devant, the world-famous illusionist, and one-time partner in Maskelyne & Devant, who died on October 13 at the age of 73, was a fruit vendor at Euston station, London & North Western Railway, in his early years. We well remember, when " assisting " him on the stage at St. George's Hall 30 or so years ago, that the apparatus visible in the flies on the prompt side bore a marked similarity in appearance to the inside of a mechanical signal box.

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

RHODESIA

Stewardesses on Trains

With the enlistment of further dining car stewards for military services, the Rhodesia Railways have recruited several women as stewardesses as a wartime expedient. The dining car services operate on the thrice-weekly mail trains from Bulawayo to the east and to the north, the round trips from Bulawayo involving from four to six days away from home. The stewardesses performed their first trip towards the end of May when they worked on the school train from the north at the beginning of the winter term. On their return to Bulawayo the Chief Steward congratulated the women on their work and since then they have been employed on regular services. A uniform consisting of blue overalls and blue peaked cap is provided.

Railway Workers' Union Conference

In a speech delivered at the recent conference of the Rhodesia Railway Workers' Union, Mr. W. J. K. Skillicorn, General Manager of the railways, stated that the company could not accept the union's request for the adoption of the "closed shop" principle. He considered however that the ordinary members of the staff should support the union. Mr. Skillicorn referred to the war effort of the railways and stated that out of a total staff of 3,835 Europeans at the outbreak of war 460 were serving with the services, or 12 per cent. The railways had been called upon to carry greatly increased quantities of traffic, and the movement of this heavy traffic had necessitated long hours of overtime and cancellation or postponement of leave. The General Manager paid a tribute to the cheerful acceptance by the staff of this arduous work and to the efficient manner in which it was performed. In addition, Mr. Skillicorn mentioned that the railway workshops were manufacturing munitions and war supplies for the Government.

Visit of South African "War Train"

During May, after an extensive tour of South Africa, the Union Government War Train toured Rhodesia. It covered 3,566 miles over the lines of the Rhodesia Railways and a further 320 miles over the Belgian Congo railways on its visit to Elisabethville. This train, which demonstrated the war effort of South African manufacturers in providing equipment, munitions, foodstuffs, clothing, etc., for the Union Forces, was everywhere greeted by enthusiastic and interested crowds. The drill displays and band performances of the picked troops manning the train were a source of admiration.

CEYLON

Response by Ministry of Shipping to Appeal for Coal

The Ministry of Shipping has, it is learned, released two steamers to bring coal from India for the use of the Government Railway. This is in response to the appeal by the local Government to the Ministry consequent on the non-arrival of stocks of coal from India. One of the steamers so released has already arrived in Colombo, thus lessening the anxiety caused by there being less than a month's coal in hand. In addition to this the requirements of other Government departments had to be met by the railway.

Secretary of State Urges Economy

The need for rigorous economy in the use of locomotives and rails is emphasised by the Secretary of State for the Colonies in a special communication addressed to the Government of Ceylon. The railway is requested to adopt all possible measures to reduce the wear and tear of engines and vehicles and of steel rails, even to the extent of a general curtailment of the train service. The non-availability for the duration of the war of new engines, rolling stock and various materials used in railway transport is emphasised.

The Position of the Railway

Commenting on the future of the Government Railway and its financial difficulties, also the proposed closing of certain sections of line, the *Ceylon Daily News* says that the suggestion is now being freely made that not merely certain sections, but the whole system should be abandoned, or alternatively, converted to a limited liability company, possibly with a Government subsidy. Failing this, it is urged, the Government should obviate competition by buying up road transport.

That such extreme remedies should be suggested is hardly surprising in view of the financial position, which has deteriorated steadily during the last 15 years, despite the work of the Hammond Commission and the attempts of the Ministry of Communications and Works to give effect to its admirable recommendations. It is evident from a memorandum by the Minister that much remains to be done by way of co-ordinating road and rail transport. In his own words, the only hope is more effective control of road transport.

WESTERN AUSTRALIA

New Wagon Stock Under Construction

At present 58 new four-wheel wagons (Class Ka.) are under construction at the Midland Junction workshops, representing the balance on a previous order on which work was stopped last year in order to enable greater concentration on other more pressing work. The new vehicles will have steel floors and straight wooden sides with pressed steel stanchions. The tare is 5 tons 17 cwt., and capacity 14 tons 3 cwt.

School, Shops, and Offices on Wheels

To meet school requirements in the Lakewood district—a district from which firewood supplies are obtained for the Kalgoorlie and Boulder gold mines—arrangements have been made to utilise an old railway coach as a school room. The school attendance is approximately 22. The population in this area moves from time to time in accordance with the area being cut for firewood and the practice in regard to the school had been for the school building—a lightly framed structure—to be moved from place to place in sections. This building, by reason of repeated shifts, had reached the end of its economical life, and to avoid the expense of a new building, it was suggested that a railway coach be used and shifted as necessary on its own wheels. An old type six-wheel coach was selected for the purpose, and it has now been put into use as a mobile school.

It may be mentioned that the Goldfields Firewood Supply Limited, the company controlling the supply of firewood from this area, has also converted the bulk of its bush structures, namely, stores, butcher's shop, camps, offices, etc., into portable bodies on old railway wagon underframes to avoid the heavy maintenance previously necessary in moving the structures from place to place, and has found this practice highly satisfactory.

JAPAN

Transport Committee Appointed

Under the direction of the Japanese Government, a permanent committee has been appointed to represent four departments, railways, air transport, ports, and materials and equipment, and deal with all matters of common interest to transport in Japan, her colonies, and occupied territories. Represented on it are: the Japanese, Korean, and Formosa Government Railways, the South Manchuria Railway, the North and the Central Chinese Railways, the shipping companies operating services between these countries, namely, the N.Y.K., the O.S.K., the Nippon Kai Kisen (Tsuruga and Niigata lines) the Dairen K.K. (South Manchuria Railway), and the air lines: Dai Nippon (Japan), Manchuria Airways, and North China Airways.

New Motor Trunk Road Sanctioned

The Government has authorised the construction of a motor trunk road on the lines of a German *Autobahn*, between Osaka and Nagoya, a distance of 140 miles, estimated to cost Y. 98 000,000 (£5,700,000).

CHILE

Equipment Shortage

The serious lack of railway equipment, especially on the narrow-gauge Northern Section, was the subject of a recent report of the General Manager of the Chilean State Railways to the Minister of Production. Not only are renewals of the existing rolling stock urgently required, but additional units are wanted to meet increasing traffic demands. In the Southern Section also, a certain number of goods trains have had to be taken off. The report makes it clear that no extensive programme of increased production will be feasible without previously dealing with the basic problem of railway transport.

SWITZERLAND

Accidents on Federal Railways

In 1928 an accident prevention service attached to the General Manager's Office was inaugurated. It first turned its attention to the reduction of accidents in the workshops, and later to those on the permanent way, and in traffic operation. Study of every kind of accident has led to the encouragement of psychological prevention and to the use of lectures, posters, notices and pamphlets to safeguard the staff. A steady fall in accident frequency has resulted as shown below:—

PERCENTAGE DECREASE BETWEEN 1928 OR 1929 AND 1937

	Per 100 men	Per 1,000,000 km. travelled	Per 100,000 working hours
Total accidents ...	34	43	—
Total fatal accidents ...	20	48	—
Workshops accidents	—	—	72 to 75

In the Permanent Way and Traffic Departments accidents have decreased by 37 and 28 per cent. respectively in the same period. It should be remembered that these results have been obtained despite the fact that the number of employees has decreased considerably although the work has greatly increased.

XUM

THE RAILWAYS OF ALASKA

New railway and port undertakings are in hand which will ease and expedite communication with the Pacific coast

ATTENTION has been directed recently to the strategic importance of the territory of Alaska by the establishment by the United States of air bases at Anchorage, on the Pacific coast, and Fairbanks, the important mining town somewhat to the east of the centre of Alaska. Fairbanks is also the terminus of the Alaska Railroad, and Anchorage is the administrative focus of the line, though not the southern terminal. The latter is 114 miles further south, at Seward, a port on the western side of the Kenai peninsula, and therefore far nearer to the nearest United States ports than Anchorage, which is on the east side, near the head of the lengthy Cook Inlet. Branching eastwards from Cook Inlet is Turnagain Arm, which from Portage to Anchorage is skirted on its northern side by the railway. At Portage, Turnagain Arm has nearly cut the Kenai peninsula in two, and it is across the narrow neck of land, 14 miles wide, that a railway is now to be built to Prince William Sound, on the eastern side, where a new port is to be constructed to replace Seward, at a combined cost of $5,300,000. This will make possible the abandonment of 64 miles of railway from Seward to Portage, which has always proved the most costly and difficult portion of the Alaska Railroad to maintain, and the use of the new port and the shortened railway is expected to curtail by 22 hr. the journey from Seattle to Anchorage and all stations north of that point. The contract has now been placed for the construction of 11¼ miles of the new route which, exclusive of track materials, buildings, and docks, will cost $3,525,000.

Far-Sighted Development

Seward commemorates the name of Secretary of State William Henry Seward, who on March 30, 1867, concluded with Russia an agreement that transferred, at a price of $7,200,000, the whole of Alaska to the United States. The transaction was much criticised at the time, but has since turned out to be a most far-sighted act of statesmanship. In the first 45 years alone exports from Alaska were five times the value of the purchase, and the mineral and other resources of the country are known to be enormous. In September, 1903, work was begun on an ambitious scheme to link Seward with Atwood, on the Tanana river in the heart of Alaska; the main line was to be 410 miles long, with a branch 115 miles in length to Copper Centre, and other branches to Fort Adams and Circle City on the Yukon river. Construction continued until 1907, but, owing to financial and other troubles, the line went into receivership in May, 1908, with only 72 miles complete, from Seward to just beyond Kern. By this time another short railway, on the 3 ft. gauge, had been opened well to the north, along the proposed route; this was the Tanana Valley, from Chena to Chatanika, 40 miles, with a 5-mile branch to Fairbanks. Work was also proceeding on the Copper River & North Western, which was intended to open up the copper mining area in the Chitina valley, and also to carry bituminous and anthracite coal both to the sea for shipment and to the interior of Alaska. This was chartered in 1905, financed by an alliance of the well-known firms of J. P. Morgan and Guggenheim, which at that time controlled the United States copper smelting industry, and completed from the port of Cordova, on Prince William Sound, to the Bonanza copper mine at Kennecott, 196 miles, in 1910. An additional 230 miles was planned, including a branch to the port of Katalla, west of Cordova, where £200,000 was spent on harbour works, but to no purpose, as it was found impossible to devise sufficient protection from the frequent storms which sweep this region.

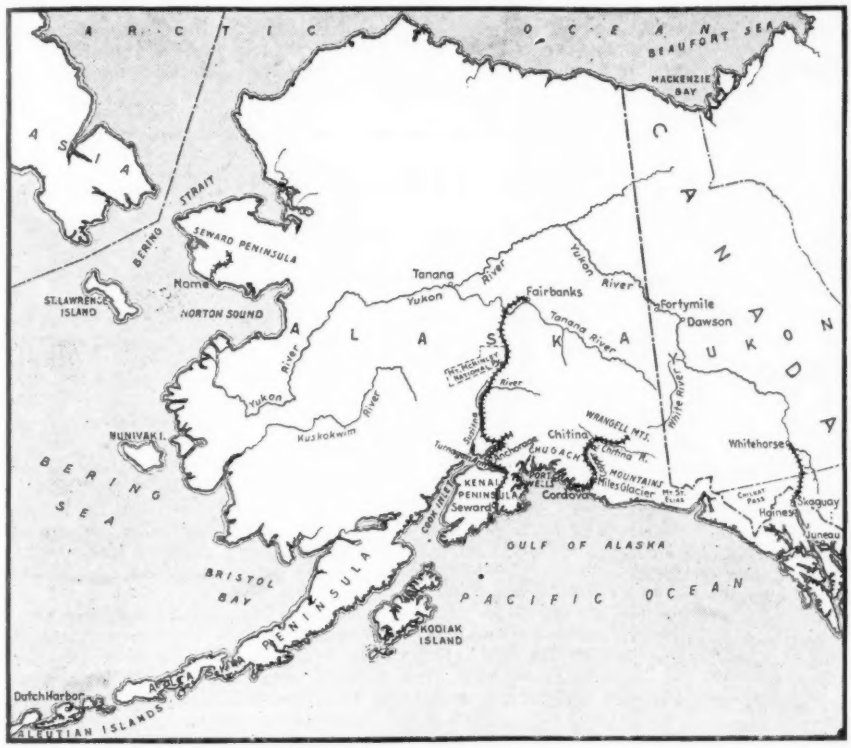
After a thorough investigation had been made by a technical commission appointed by President Taft, an Act passed in August, 1912, by Congress authorised President Wilson, on March 12, 1914, to acquire, construct, and work railways in Alaska at a cost not greater than $35,000,000. The Taft commission had recommended two lines—one from Seward to the navigable waters of the Kuskokwim river, which would incorporate the already existing 72 miles of the Alaska Northern from Seward to Kern, and the other from Cordova, using a portion of the Copper Country & North Western, and then turning northwards from Chitina along the site of the present motor road to Fairbanks. But President Wilson ignored the Morrow-Brooks report, and taking other advice decided on one railway only, continuing from Kern through Anchorage to Nenana, on the Tanana river—a considerably more expensive route. This was to be 412 miles long, with a 38-mile branch to serve the Matanuska coalfield; subsequently an extension of 58 miles was authorised from Nenana to Fairbanks, which involved the acquisition of the Tanana Valley RR. Purchase of the Alaska Northern, for which that company asked $6,000,000, and for which $1,500,000 had been allowed, was finally whittled down to $1,157,340, and it cost $4,500,000 to put the line in order; the Tanana Valley cost $300,000, and needed $250,000 to put it in order, but by 1930 traffic had so diminished that the section from Happy to Chatinika was abandoned, and the only ultimate value of the purchase to the Alaska RR. was the use of 7 miles of the Tanana Valley formation from Happy to Fairbanks, and of the smaller company's shops and terminal facilities at that town. Actually, instead of the $35,000,000 appropriated, a total of $56,000,000 was spent by the U.S.A. Government before the Alaska Railroad was opened throughout in June, 1923, at a cost per mile which averaged $78,000, or with all equipment and facilities included, $120,000. Subsequent appropriations for the re-location of certain stretches, and other necessary work, have brought the expenditure to $70,000,000 in all; 540 miles of line are now in use.

Development Work

At Anchorage, on the neck of the Kenai peninsula, the first spike of the new Alaska Railroad was driven on April 29, 1915, with 42 miles of line to be constructed southward along the shores of Cook Inlet and Turnagain Arm, in order to link up with the existing Alaska Northern, and the remainder of the construction to be carried out in a northerly direction. The work was throughout very difficult, chiefly owing to the mountainous nature of the country and the climatic conditions, and was held up from time to time by strikes; and the ultimate doubling of the original estimated cost is thereby in part explained. The highest Alaskan mountain ranges fringe the Pacific coast, in continuation of the Rockies; nearest to the coast are the Chugach mountains, from 5,000 to 8,000 ft. high; parallel to these, and separated from them by the copper-bearing Chitina valley, are the Wrangell mountains, reaching a maximum altitude of 16,420 ft. in Mount Bona, and developing south-westwards into the Mount St. Elias group, a summit 18,000 ft. high, and Mount Logan, just across the Canadian border, 19,850 ft.; while inland, west of the Chugach mountains and the Susitna valley, there is Mount McKinley, 20,300 ft. high and the record altitude for the United States. This last forms part of the great reserve known as the Mount McKinley National Park, one corner of which is tapped by the Alaska RR. in its course up the Susitna valley. Enormous glaciers stream down from these mountains towards the western seaboard, of which Malaspina fringes the sea for 40 miles, but owing to the warm current which sets across the Pacific from Japan, the Pacific Alaskan ports, like those on the west coast of Norway, are kept from freezing up in the winter, despite their latitude. It is through the inhospitable coastal region that the railways and roads of Alaska have had to force their way in order to reach the low level regions of the interior.

From Seward the Alaska RR. climbs 1,063 ft. to the summit at Grand View, with 6 miles on a 1 in 45 grade, and

then drops 300 ft. by means of two complete spirals, passing Bartlett and Spencer glaciers at close quarters, and then pursuing a tortuous course through Placer canyon, with six tunnels and two snowsheds, before the line reaches Portage. From here the new railway, previously mentioned, is to cut across the Kenai peninsula to Prince William Sound—and two tunnels, one 13,070 ft. and the other 4,960 ft. long—will be needed. From Portage the track runs for 50 miles along or near the shore of Turnagain Arm and Cook Inlet to Anchorage. This town was fixed on as the starting-point of the new construction in 1917 because it was desired to open up the neighbouring Matanuska coalfield at the earliest possible date, and two 1,000-ft. moles were run out, connected by a quay.



Sketch map of the railways of Alaska, reproduced from our U.S.A. contemporary, the "Railway Age"

The choice was not ideal, for Cook Inlet is obstructed in winter by drift ice, and the tides have a rise and fall of no less than 45 ft.; further, as compared with Seward, the distance to and from the nearest U.S.A. port is increased by 275 miles. Anchorage, which as previously mentioned the U.S.A. Government is developing as an air base, is the administrative centre of the railway. Some 36 miles further on, and 150 miles from Seward, is Matanuska, from which the Sutton sub-division extends for 20 miles to Sutton, with short branches to Moose Creek, Jonesville, and Eska; originally this branch extended to Chickaloon, but in 1933 the last 18 miles from Sutton to Chickaloon were closed and taken up. In addition to the Matanuska coalfield, this sub-division serves Palmer, 6 miles from Matanuska, where 11,000 acres of land are being developed as a food-producing centre by settlers from the drought-stricken Middle West area of the U.S.A., under the auspices of the Alaska Rural Rehabilitation Corporation.

From Matanuska the main line proceeds up the Susitna valley to Curry, 249 miles from Seward, where the Alaska RR. has a modern hotel, and the passenger trains in both directions remain overnight. From Anchorage to this point the ruling gradient has not exceeded 1 in 100, nor has the altitude exceeded 354 ft. But beyond a bridge 1,322 ft. long across the Susitna river, a long and steep climb begins, at 1 in 57 for 13 miles and then 1 in 67, to an altitude of 1,688 ft. at Hurricane, 32 miles further on. Hurricane Gulch is crossed by a steel arch bridge 920 ft. long, with a clear span of 384 ft., carrying the rails 296 ft. above the river. The main divide of the Alaskan mountains is crossed in the Broad Pass, 2,363 ft. above the sea, and 322 miles from Seward; 26 miles further on is McKinley Park station, at the entrance to the national reserve. From Healy, 358 miles, there is a 4-mile branch to the Suntrana lignite mines. The railway is now descending the Nenana valley, and at the important town of Nenana, 412 miles from Seward and 362 ft. above the sea, reaches the Tanana river, a tributary of the Yukon, from which steamer may be taken to Nome, on the Bering Straits, or, doubling back up the Yukon from Tanana, to Dawson, centre of the Yukon gold-mining area. Beyond Nenana the Alaska RR. climbs to cross the most notable bridge on the route, a single 700-ft. span across the Tanana river, which with its approaches cost $1,800,000. At 467 miles from Seward is the University of Alaska, with its well-known school of mining, and 3 miles later the line reaches its terminus at Fairbanks, a town of 2,500 inhabitants. The gold-mining here is on the "placer," or alluvial system, and is the most extensive area in the world so mined. Fairbanks, 470 miles from Seward and 448 ft. above the sea, is the largest settlement in the interior and is a centre of communications; it is connected with the Pacific coast by a good motor road, well to the west of the railway, reaching the seaboard at Valdez, and is also being developed by the United States as an air base.

Power on the Alaska Railroad is supplied by 21 steam locomotives. There are two classes of 2-6-0, one with 19 in. × 24 in. cylinders and 4 ft. 9 in. driving wheels and the other with 20 in. × 26 in. cylinders and 5 ft. driving wheels; in 1927 and 1928 some Baldwin-built 2-8-2 engines were added, with 20 in. × 26 in. cylinders, 5 ft. driving wheels, and 56,600 lb. tractive effort, including booster, while the latest type is a Baldwin-built 4-8-2, with 54,900 lb. tractive effort. Passenger service is also supplemented by two railcars, namely a 50-seat petrol vehicle of 190 h.p., and a 250 h.p. petrol-electric unit which with trailer seats 86 passengers. There are 33 passenger cars, 928 freight cars, 98 miscellaneous cars, and 2 hopper cars; at present there are on order two 70-ft. coaches, two 60-ft. baggage cars, 20 twin-hopper all-steel coal cars, and four refrigerator cars. A considerable proportion of the rolling stock used on the opening of the line was brought by the U.S.A. Government from the Panama Canal zone. In the year ended midsummer, 1939, the last for which figures are available, the Alaska Railroad carried 27,436 passengers and 147,904 tons of freight, but operation showed a deficit of $19,831 on the year. On the mountain grades 90 lb. per yd. flat bottom rails are laid, and elsewhere 70 lb. rails.

The Copper River & North Western Railroad was an even more difficult constructional project, as it had to find its way through the Chugach mountains in order to reach the Chitina valley. Owing to the proximity of glaciers, the estuary of the Copper river had to be crossed twice in the early part of the route, and the building of the bridges involved was rendered doubly hazardous by the activity of the adjacent glaciers, which at times move as much as 5 ft. in a day, and "calve" or throw off large floating sections, at frequent intervals during the hot Alaskan summer. One of these crossings is 3 miles below Miles glacier, the toe of which is a cliff of ice 300 ft. high, and this bridge has Childs glacier

XUM

closely adjacent on the other side; it is 1,550 ft. long, and is made up of one 450 ft., two 400 ft., and one 350 ft. spans, 4,000 tons of steel having been used in the construction. Another bridge of note is that spanning Kuskulana gorge, and is 525 ft. long, and 175 ft. above the river; the main span is 225 ft. The terminus was at the Bonanza mine, Kennecott, 196 miles from Cordova; from Copper River station, 102 miles from Cordova, the company operated three small steamers to Copper Centre. Owing to the working out of the Kennecott mines, the Copper River & North Western closed down in 1939, but in view of the strategic value of the route, a movement is on foot to see that the track is kept in order, and in particular that the costly bridges mentioned be safeguarded and not allowed to disintegrate. In its heyday the C.R. & N.W.RR. owned 15 steam locomotives, 15 passenger cars, and 140 freight cars, as well as a large combined hotel for visitors and hostel for its staff at Kennecott.

The only other purely Alaskan railway is a short line in the vicinity of the Bering Straits, running into the Seward peninsula from the port of Nome. But the White Pass & Yukon, the main means of approach to the Yukon territory of Canada, passes across 20 miles of United States territory from the port of Skaguay, at the head of the long fjord-like inlet known as the Lynn Canal, to the summit of the White Pass, which forms the frontier between Alaska and Canada, 2,900 ft. above the sea. This line, 110 miles long, and with 90 miles in Canadian territory, was financed by an English firm and opened in 1900, and runs to Whitehorse, in the watershed of the Yukon, whence for four months in the year transport to and from the Yukon mining area is by water; the White Pass & Yukon actually owns 9 steamers, 8 launches, and 21 barges. It also has 10 steam locomotives, 22 passenger coaches, 198 wagons, and 60 miscellaneous vehicles, together with four aeroplanes, and continues to operate successfully.

A NOTABLE AMERICAN TIMBER TRESTLE VIADUCT

A trestle-cum-arch structure, 235 ft. high and 1,130 ft. long, for a standard gauge line, designed for Cooper's E 50 loading

TO span Baird Creek in Washington State, U.S.A., the Weyerhæuser Timber Company has built a remarkable timber trestle-cum-arch structure, designed for Cooper's E 50 loading and to withstand a broadside 90 m.p.h. gale and the maximum longitudinal thrust of a train extending throughout its length either accelerating or braking. The centre of the trestle viaduct is superimposed upon a 120-ft. three-hinged timber arch which has a rise of 60 ft. and the crown of which is 105 ft. above the stream-bed. The central 480 ft. of the structure, including the arch, is straight, and is flanked by sharply curved pile-trestle approaches, 400 ft. on one side and 250 ft. on the other. After exhaustive investigations into the possible use of cedar and treated timber, concrete and timber, concrete and steel and all-steel, and into structures of various kinds fabricated with these materials, it was found that creosoted timber trestles with bents at 30 ft. centres and built up in 30 ft. tiers, together with an arch to clear the stream-bed, were the most suitable. Though the use of 30-ft. panels necessitated six 2 ft. 6½ in. stringers or girders—arranged in two chords of three stringers to a 30-ft. span—this proved more economical than the usual 14-ft. to 16-ft. panels.

Details of the Structure

The 480-ft. central section has 15 trestle bents—11 of them founded upon concrete pedestals and 4 on pile footings where the overburden is very deep—and 2 pile bents, where the height is less but overburden still deep. The pedestals are founded on solid rock. Each bent consists of a central vertical post 12 in. × 14 in. and two posts on each side of it on a tapering batter, the outside ones being at 1 in 5 and of 14 in. × 14 in. timber. The timber arch, which supports four tiers of the trestle viaduct, is made up of five trusses or arches, one under each row of posts in the trestle bents, and the panel points of the arch correspond with the spacing of the bents longitudinally to the viaduct. The arch springings rest on almost entirely-buried concrete abutments.

The sections of timber used, apart from the bent-posts, are 10 in. × 3 in. sway and sash braces, 10 in. × 4 in. tower braces, 12 in. × 6 in. girts, and 10 in. × 3 in. girt bracings. The ends of abutting posts at the tiers are separated by 10-gauge galvanised iron sheet, and all joints throughout the arch have steel gussets; apart from the concrete foundations the whole of the remainder of the structure is of creosoted timber. A special feature is the use of various types of heavy timber connectors. 4-in. split-ring connectors are fitted at the ends of all bracings, and in the arch flush-type shear plates were inserted between the gusset plates and the timbers.

The bridge was accessible by rail only from the west side. The first operation at the site was the removal of the overburden by water jets to expose the rock, so that it could be blasted to receive the concrete pedestals and arch abutments, a pump being brought up to the west bank of the ravine for this purpose. Meanwhile all the timber required was preframed, bored, and treated with a 50-50 mixture of creosote and petroleum by the empty-cell process. Material under 6 in. in thickness was given 10 lb. of preservative to the cu. ft., and that over 6 in. received 8 lb. Most of the material was railed to site in the form of complete one-tier panels for the various bents. These were slung out to the exact spot required from the western approach by a cableway, which also transported the piledriver required for the two pile bents at the eastern end of the central section of the bridge and for the footing piles for the four frame bents, these piles being tied into the first and second tiers of the trestle structure.

In the erection work, begun as soon as the concrete foundations were ready, the bents were first built up to the level of the crown of the arch, which was next erected. Erection then proceded bent by bent with the aid of the cableway, and the largest one-tier bents handled, measuring 56 ft. along the top and 68 ft. at the bottom, were slung in a horizontal position with four lines, one at each end of the inner batter posts. That this was possible without bolsters shows the rigidity of the bents, thanks to the strong bracings and heavy timber connectors. This fine structure is, according to our American contemporary the *Railway Age*, one of the loftiest of its kind in the U.S.A.

MANUFACTURE OF TRAILERS IN THE UNITED STATES.—The manufacture in America of trailers for use with motorcars has recently been running at a very high level, and the opinion is held that the current year may establish high records for this business. Demands from tourists have been unusually high, and there is also a considerable call for these vehicles for temporary emergency housing and builders of house trailers are stated by the U.S.A. Department of Commerce to be working to capacity. The factories turned out 18,130 coach or house trailers in 1937, but there was a very sharp decline to 11,782 in 1939. From the end of that year, however, there was a rapid up turn in business and American trade journals described 1940 as the nation's "banner trailer-building year." The national defence housing demand in the current year has given a further impetus to the industry. In 1939 there were 79 establishments with an annual production valued at more than $5,000 dealing in this class of business compared with 85 in 1937. In the former year the wage bill was $1,501,270 compared with $3,610,183 in 1937, a decline of no less than 58·4 per cent. The cost of materials and so forth for 1939 was $4,835,158, against $7,178,008; and the value of the products was $7,941,996, against $13,098,577 in 1937. The value added by manufacture was estimated at $3,106,838 against $5,920,569.

RAILWAY STEAMERS IN WAR

A survey of their many duties in the war of 1914-19

By FRANK C. BOWEN

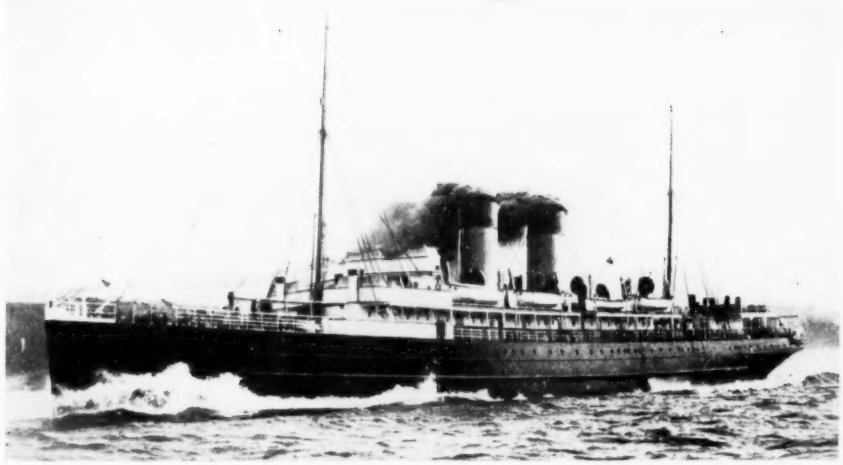
ALTHOUGH the use of merchant steamers as naval auxiliaries in war was given a great deal of attention during the latter part of the nineteenth century, this did not apply to the railway packet. Despite the fact that some of these craft were among the fastest steamers under the Red Ensign, the paddle-wheel type with high machinery was vulnerable to shellfire, and only the few screw-driven vessels were regarded as reasonably safe for their personnel. The small coal capacity of the railway steamers was also a point against their general use for naval purposes and they could not be regarded as anything more than short range dispatch runners.

For these reasons, theoretical plans paid little or no attention to the railway steamer, but the introduction of the turbine at the turn of the century, giving higher speed with improved economy, and the concentration of naval interest within the confines of the North Sea, made a big difference. The policy of secrecy which the German Navy had inaugurated had by that time spread to us, and it is significant that in the ten years which preceded the outbreak of the late war practically nothing was printed or said in public concerning the naval use of the packets.

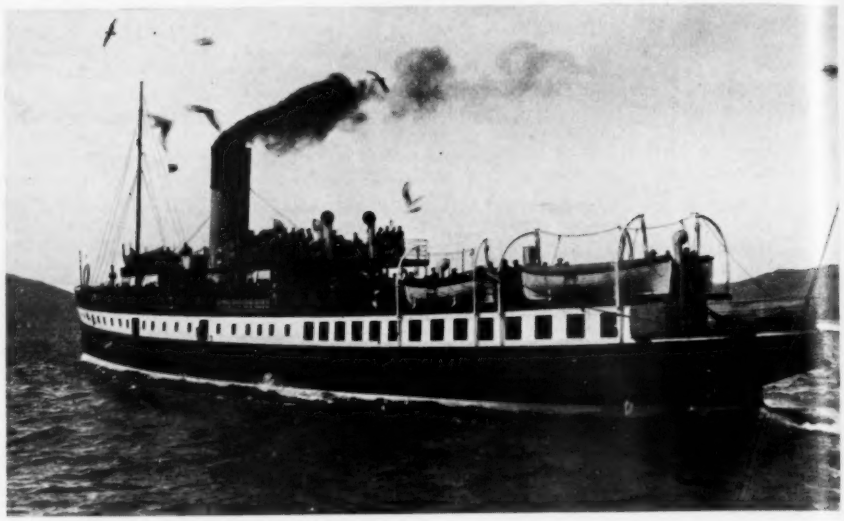
One of the most difficult ships to design, the task was even greater when most of the packet ports were so shallow and ill-developed that the draught had to be limited, at the expense of seaworthiness and seakindliness. They were nearly all paddle driven, very fast, but at a high cost, and it was necessary for them to be very handy. The introduction of the turbine secured all the necessary qualities at a very much smaller price, and by 1914 there were a number of miniature express liners in the fleets.

Perhaps the most picturesque, and in many ways the most interesting, of their duties was as seaplane carriers, a function which had been allotted to them by the pioneers of the Royal Naval Air Service. At that time the idea of launching aircraft off the deck of a ship, and landing on it again, was regarded as nothing but a pretty dream. Platforms had been laid over the turrets and guns of pre-war battleships and small planes had taken off from them, but they put the guns out of action and they were obviously unsuitable for war. The only thing to be done was to have a ship which could carry seaplanes as near as possible to the area of operations, drop them into the water to take off

Veterans like the London & South Western steamer "Cherbourg" of 1873 *played their part. She was commissioned into the Navy for miscellaneous service for some time during the early part of the late war*



The London & North Western Railway steamer "Scotia" served as an armed merchant cruiser from the beginning of the war until the summer of 1917 *and then as a transport until well after the Armistice*



As H.M.S. "Atalanta II," the Glasgow & South Western Railway steamer "Atalanta," one of the early Clyde packets, proved excellent both as a cross-Channel trooper and as a fast minesweeper

The London, Brighton & South Coast steamer "Sussex," on passenger service, was deliberately torpedoed in the Channel in 1916. Although the prompt manner in which she was beached saved many lives, the number of casualties in such atrocious circumstances did much to bring the United States into the war

The Great Eastern steamer "Brussels" remained on the mail service, but was captured in 1916 and taken to Zeebrugge. After Captain Fryatt had been shot by the Germans they used her as a hulk for submarine ratings and scuttled her when they abandoned Zeebrugge

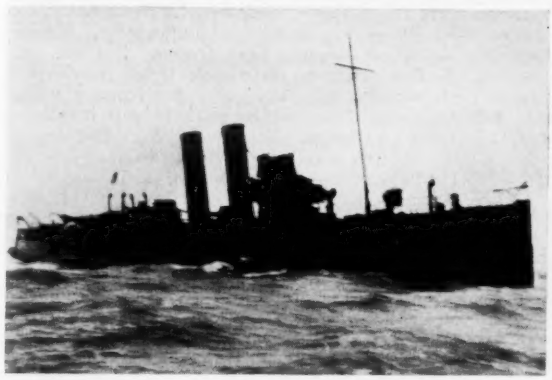
by their own power and, when their work was done, pick them up again if the sea were not too heavy to get them alongside. It was bound to take some time, so that the carriers had to be the fastest ships available in order not to delay the fleet with which they were operating.

The *Engadine*, *Riviera*, and *Empress*, three of the fastest and most up-to-date packets of the South Eastern & Chatham Railway, and the *Manxman*, of the Midland Railway, were fitted with big steel hangars aft, each capable of housing three seaplanes. These contained a certain amount of machinery suitable for the most urgent running repairs, and at each side of the after end, alongside the big shutter door, there were two derricks of special design, capable of lifting the planes. To modern ideas the whole plan was very primitive, and with the light draught of these ships it had an unfortunate tendency to bring them flying into the wind like weather-vanes.

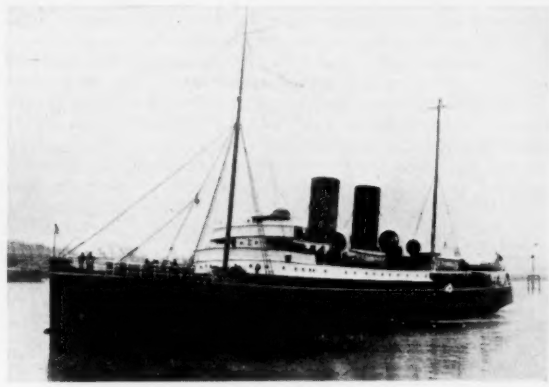
The *Engadine*, in fact, has a distinct place in naval history, for she was the first to use a plane seriously in a naval action—the Battle of Jutland. She was attached to Beatty's division and was stationed between H.M.S. *Gloucester* and *Cordelia* in the line. As soon as contact was made with the enemy she was ordered to send up a plane, which was immediately able to identify the enemy cruisers. The plane made four reports to the ship, but they had no influence on the course of the action, as the cruisers were already in touch. The last one was made when the plane was descending and was not received by the *Engadine*; the other three failed to get through to the flagship, although attempts were made to communicate by searchlight and also by radio through the cruiser *Blanche*. Naturally the keen men of the R.N.A.S. were bitterly disappointed at this failure, through no fault of their own, but the Fleet realised what had happened and, through the *Engadine*, the possibilities of seaplanes with the Fleet received more attention.

When she had picked up her plane, the *Engadine* followed the battle cruisers and, coming on the old armoured cruiser *Warrior* totally disabled, she took her in tow and hung on for nearly twelve hours, no small feat for a ship of a packet design which is less suitable for towing than almost any other. The water was steadily gaining on the cruiser's pumps and so the *Engadine* gave up the job, after taking off the crew and carrying them to Rosyth.

The technique of seaplane carrying developed very rapidly, and it must be remembered that it was H.M.S. *Pegasus*, originally laid down as the Great Eastern Railway packet *Stockholm* for the Harwich-Hook of Holland service, which was used for the long series of experiments which had so much to do with the evolution of the *Ark Royal* and her consorts today. These experiments continued long after the end of the war, and, while they were in progress, the ship was altered and modified so many times that the Admiralty

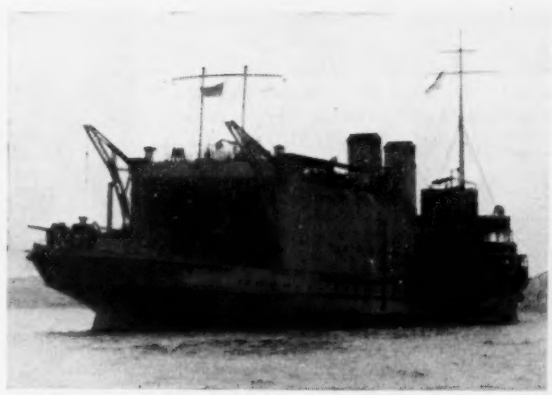


The Furness Railway paddler "Lady Moyra" was a paddle minesweeper from the end of 1915 (when the Admiralty realised that a paddler could stand up to bad weather) until the end of the war



The London & South Western Railway packet "Normannia" normally maintained the skeleton mail and passenger service, but she proved a useful trooper in an emergency

The Great Western steamer "Lynx" renamed H.M.S. "Lynn" to avoid confusion with the destroyer, found her seaworthiness and speed of great assistance as Fleet minesweeper



The South Eastern & Chatham packet "Empress" equipped as a seaplane carrier, showing the big hangar aft which made her difficult to handle in unfavourable weather

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was wise to take her over completely instead of requisitioning her on time rates. The owners would certainly have been puzzled as to how to convert her back into a packet.

Another picturesque and dangerous duty in which the railway steamers distinguished themselves was minelaying, in which the *Biarritz*, of the old South Eastern & Chatham service, and the *Paris*, a geared turbine pioneer just added to the London, Brighton & South Coast fleet, made a fine name. Their high speed, shallow draught, and long decks made them admirably adapted for that work with little conversion. Two of their best known feats were the laying of a minefield off the mouth of the Ems in October, 1915, and in the following March the field which closed the mid-sea approaches to the Thames and to the Straits of Dover between the North Hinder and Galloper Lightships. These and their other exploits were particularly dangerous.

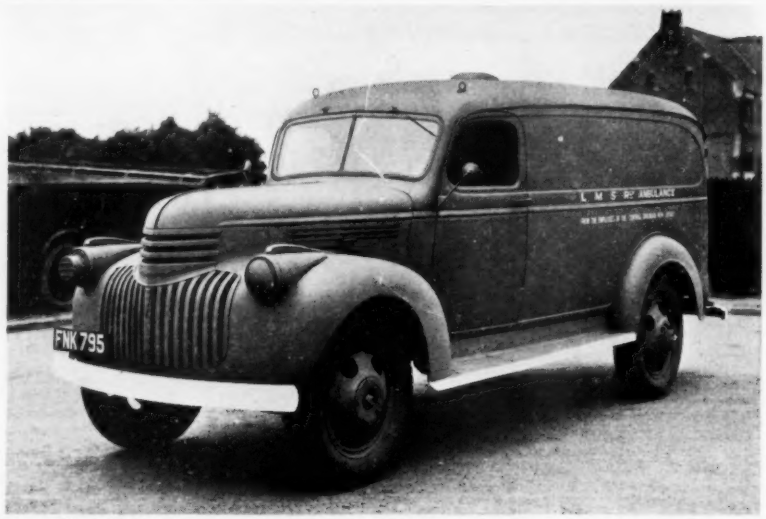
To go through all the duties performed by the numerous railway steamers which were commissioned—in some cases every unit in the fleet and in practically all a large proportion—would be tedious, and only a representative list of duties and ships can be given.

Quite a number were employed as armed boarding steamers in connection with the inshore blockade and examination service, generally armed with 4-in. or 12-pounder guns and acting as a support to the numerous tugs which carried out the actual boarding duties. These included the *Sarnia*, *City of Belfast*, *Duchess of Devonshire*, *Caesarea*, and *Dresden*. The *Cleethorpes*, *Duchess of Norfolk*, and *Duchess of Richmond* were conspicuous for patrol and anti-submarine work, which employed both paddlers and screw vessels.

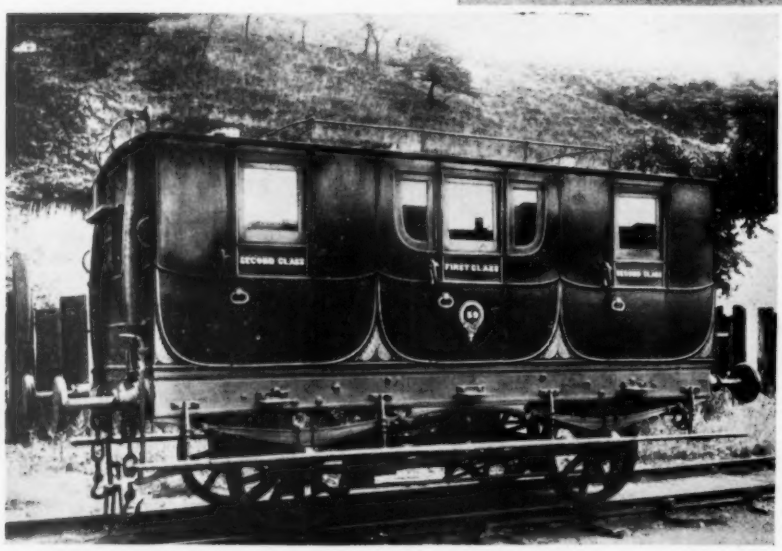
The *Hibernia*, *Scotia*, *Cambria*, and *Vienna* were among those commissioned as armed merchant cruisers for such particular service as demanded high speed without any great steaming radius, and they afforded considerable relief to the flotillas. The Fleet messengers' duties were very varied, especially with the Grand Fleet at Scapa Flow and the ships engaged in the Dardanelles expeditions. *Princess Ena*, *Brocklesby*, and *Chesterfield* were among these.

Cross-Channel trooping was an obvious function for a packet steamer, and a very large number were employed on it, the majority naturally being drawn from the companies which now make up the Southern Railway. Among the well-known troopers were the *Bordeaux*, *Normannia*, *South Western*, *Vera*, *Antrim*, *Donegal*, *Londonderry*, *Marmion* (paddler), *Invicta*, *Onward*, *The Queen*, *Victoria*, and *Greenore*. Similar qualities, especially those provided for night services in peacetime, were also particularly wanted for the hospital ships. The railway packets were invaluable. *Arundel*, *Brighton*, *Dieppe*, *Newhaven*, *St. Andrew*, *St. David*, *St. Patrick*, and *Anglia* were among these.

The railways contributed a number of steamers to the minesweeping service, both paddlers and intermediate screw steamers on account of their seaworthiness and speed sufficient to permit them to sweep a passage ahead of the Fleet before the sloops of the "Herbaceous Border" type were completed for the same purpose.



Right: One of three motor ambulances which have been presented to the L.M.S.R. by employees of the Central Railroad of New Jersey, in recognition of the gesture of friendship to the U.S.A. in sending the Coronation Scot on a goodwill tour of America in 1939-40 Details of the presentation were given in our issue of August 1, at page 118



Left: A fine example of early railway coach work used on an ancestor of the L.N.E.R., namely, the Stockton & Darlington Railway, which celebrated its centenary in 1925. The combined first and second class accommodation in one coach is a reminder of the days when the squire and his lady took their personal servants along with them and housed them on each side of their first class compartment. The whole design shows the influence of the stage coach era. This and other historic exhibits normally preserved in the York Railway Museum have been removed to places of greater safety for the duration of the war (see page 402)

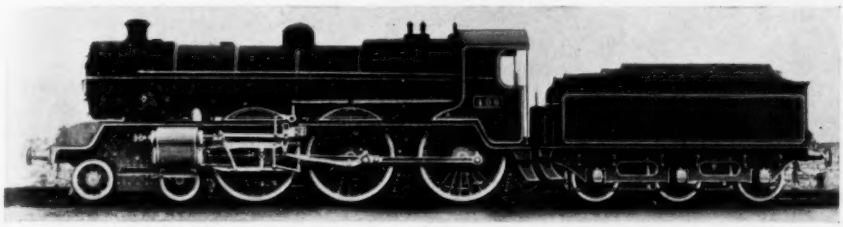
CAPROTTI VALVE GEAR ON 4-6-0 LOCOMOTIVES, G.S.R.

A 2-cylinder express locomotive of the Great Southern Railways (Eire) after 10 years' good service with Caprotti poppet valves has just been modernised

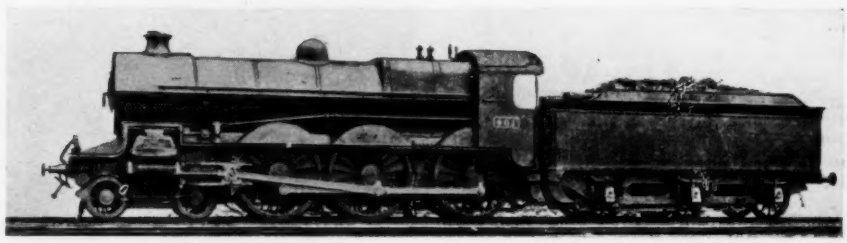
SOME interesting modifications have recently been carried out on the 4-6-0 express engine No. 401 of the Great Southern Railways of Eire which was built at the company's works at Inchicore, Dublin, in 1921, with others of the same class; details of these modifications are given here by courtesy of Mr. E. C. Bredin, Chief Mechanical Engineer of the Great Southern Railways. Originally fitted with four single-expansion cylinders, all the locomotives in the series were subsequently rebuilt as two-cylinder engines at the same works. Two of them, Nos. 401 and 406, which were converted in 1930 after completing 189,805 and 60,318 miles respectively, had Caprotti valve gear fitted, the cylinders being 19½ in. dia. with a working pressure of 180 lb. per sq. in., and coupled wheels 6 ft. 7 in. diameter. In the years following this change the two Caprotti locomotives did good service, and until the more recent advent of Mr. Bredin's "800" class three-cylinder locomotives, shared with the piston-valve engines of their class all the important express passenger work of the line, including the 7 a.m. Dublin to Cork Mail and the Killarney excursions. During this period a further 385,208 and 334,257 miles were covered by the two engines, making their individual mileages 575,013 and 394,575 respectively. The two engines have accomplished many notable runs and are much appreciated by the enginemen. The running shed staff also have a good word for them, particularly on account of their reliability and ability to stand up to intensive service.

During recent visits to the shops for general repairs the opportunity was taken to make certain alterations, the chief of which was the fitting of a new "K" class boiler. This boiler, designed and built at Inchicore, had already proved highly satisfactory on engines Nos. 403 and 405, and, with a working pressure of 180 lb. per sq. in. and a good degree of superheat, steams very freely. In its later editions the stays in the water space at the sides of the firebox have been made of Monel metal and have proved entirely satisfactory. The new boiler was accompanied by a larger and better cab, which improved the appearance of the engine.

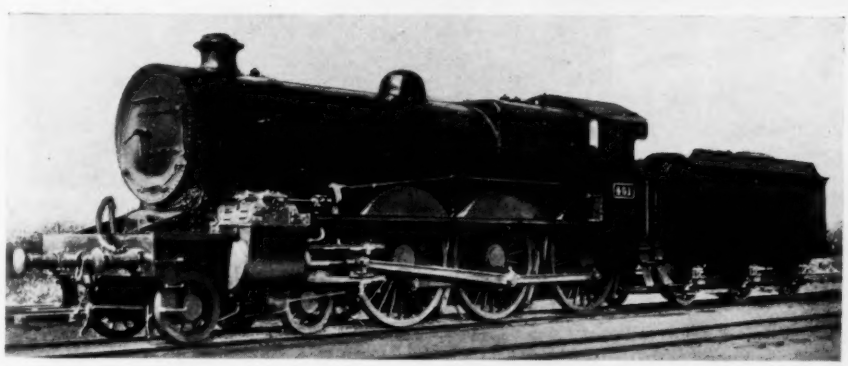
The Caprotti valve gear after ten years' service still retained practically all the original parts and, as these showed little sign of wear, several minor improvements were made in the camboxes, and the old spring operation of the valves was replaced by steam operation, which is now standard Caprotti practice. At the time of the conversion from four to two cylinders, steam-operated valves were in the development stage, but the G.S.R. had the cylinders cast with provision to enable the new system to be incorporated at a later date if desired. Although cambox controlled, the valves are returned to their seats by steam taken from a connection to the regulator in the dome, a first opening of which admits steam through a pipe to the counterbores, the tail rods, acting as pistons, lifting the valves into working position before a further opening of the regulator admits steam to the cylinders. After these alterations were made on engine No. 401 several runs were recorded, and the improvements were entirely successful. On one occasion during a run on Dublin to Cork route every advantage was taken of the automatic by-pass which the springless valves provided and, excluding the normal coasting into stations, at least 20 miles of the 165 were covered with the regulator closed. On this trip the longest continuous coasting run was one of about 7 miles from Kildare and on past Monasterevan. One interesting outcome of the change-over has been the exceptional absence of carbon on the valves when inspected at subsequent periodical examinations.



Left: Locomotive No. 406, G.S.R., showing the "400" class engines as originally built with four single-expansion cylinders and piston valves



Right: Locomotive No. 401, rebuilt as a 2-cylinder engine with Caprotti valve gear; and, below, as now running with steam-operated valves



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British Railways and the War—89

King's Cross station, L.N.E.R., was damaged in an air raid some months ago, and the booking office facilities were put out of action. An emergency booking hall was immediately arranged in the tea room, and provision for light refreshments was made in a buffet car placed at the buffer stops of the main departure platform, No. 10, as shown in the picture above. The view on the right is of a portion of the interior of this emergency tea car

Left: The tea room at King's Cross station, L.N.E.R., converted into an emergency booking hall after air raid damage to the station earlier this year

RAILWAY NEWS SECTION

PERSONAL

The Home Secretary & Minister of Home Security has announced that Lord Monsell, one of the Regional Commissioners for Civil Defence, has been assigned permanently to the South Eastern Region, of which he has been in charge during the absence of Sir Auckland Geddes. Sir Auckland will not be able to resume duty as a Regional Commissioner for some time to come.

GREAT SOUTHERN RAILWAYS

Mr. W. H. Morton, General Manager, is to direct his activities to special duties connected with transport problems in Eire, and his work is being carried out by Mr. E. C. Bredin, Chief Mechanical Engineer. Mr. Morton will remain with the G.S.R. in an advisory capacity.

Mr. Bredin's successor as Chief Mechanical Engineer is Mr. M. J. Ginnetty, Running Superintendent. Mr. McNab of the Traffic Department is to succeed Mr. Ginnetty.

Mr. Patrick Lyons, Goods Superintendent, North Wall, retired on October 1.

Mr. Robert Fennell, District Superintendent, Westland Row, has been appointed Goods Superintendent.

Mr. P. J. Lyne, Assistant to the District Superintendent, Cork, has been appointed District Superintendent, Westland Row.

Mr. W. J. Bourke, District Traffic Superintendent, Galway, has retired.

Mr. George Toner, Livestock Superintendent, has been appointed District Superintendent, Galway.

Mr. B. Rutledge, Canvasser, Western District, has been appointed Livestock Superintendent.

Major R. A. B. Smith has been re-elected President and Mr. George Monro and Mr. J. S. Nicholl Vice-Presidents of the Commercial Motor Users Association.

Mr. Joseph James Carter, Managing Director of Crossley Bros. Ltd., has been re-elected President of the British Engineers' Association for the third successive year.

The Senate of London University has conferred upon Dr. W. Ker Wilson the degree of D.Sc. (Engineering) for original work carried out by him on vibration in power transmission systems with particular reference to aero-engine airscrew installations. This work is included in the second edition of his book "Practical Solution of Torsional Vibration Problems," which was reviewed in the January 10 and September 12, 1941, issues of THE RAILWAY GAZETTE. Dr. Ker Wilson has been recently appointed Research Engineer in the Engineering Department of the De Havilland Aircraft Co. Ltd.

Mr. R. G. Henbest, F.S.I., Technical Assistant, who has been appointed Estate Assistant to the Estate & Rating Surveyor, Southern Railway, as recorded in our October 17 issue, entered the estate office of the South Eastern Railway in 1915 and became a technical assistant in 1927. He passed his final examination of the Chartered Surveyors' Institution in 1931. From 1933 to 1936 Mr. Henbest was responsible for negotiations for sales and purchases on the former S.E. & C. Section of the company's estate, and

Mr. R. G. Henbest

Appointed Estate Assistant to the Estate & Rating Surveyor, Southern Railway

in 1936 was placed in charge of development matters, also acting as Personal Assistant to the Estate & Rating Surveyor in confidential matters. Since the outbreak of war he has also dealt with matters arising out of emergency legislation so far as it relates to the company's estate, including the settlement of compensation for the occupation of the company's property by the Services and other Government Departments. Mr. Henbest was elected a Fellow of the Chartered Surveyors' Institution in 1939.

Mr. Alex Drakeford, Minister for Air in Mr. Curtin's new Commonwealth of Australia Cabinet, was formerly an engine driver in the State of Victoria.

Mr. Maurice Hely-Hutchinson, M.P., has been elected to the board of Tanganyika Concessions Limited to fill the gap caused by the death of Lord Stonehaven, which we recorded in our September 5 issue.

Mr. William Shearer has been appointed Chairman of Balfour, Beatty & Co. Ltd., and of the Power Securities Corporation, in succession to the late Mr. George Balfour.

Mr. Balfour, who died on September 26, in his 69th year, was associated in his early years with J. G. White & Co. In 1908, he founded the firm of Balfour, Beatty & Co., which took a prominent part in forming electric tramway undertakings, some of which were later converted to motorbus operation.

The death took place on July 30 at Pine Bluff, Ark., of Mr. Harvey C. Couch, Chairman of the board and of the Executive Committee of the Kansas City Southern Railway, and Chairman of the board of the Louisiana & Arkansas Railway, and former President of both railways.

Colonel F. Clayton has resigned from the board of the Grand Union Canal Company.

Mr. T. Sheppard, the Director of the Hull Municipal Museums, has retired on superannuation. He was for many years in the service of the old North Eastern Railway Company, beginning at the age of 13 in the Manager's office at the Goods station in Kingston Street, Hull. Eventually he transferred to the Dock Offices where he remained until his appointment as Curator to the Hull Municipal Museums in 1900. During his early years in railway service he began collecting railway material, and, as the transfer of the Hull Dock Company to the North Eastern Railway occurred while he was in the service of the latter company, he had an opportunity of examining a very large quantity of material which was being disposed of after the amalgamation. On behalf of the Municipal Museums he has since made extensive collections of items of railway interest and these were placed originally in the Museum of Commerce & Transport in High Street. Eventually this became overcrowded and the Divisional General Manager at York of the L.N.E.R. then placed at the disposal of the Hull Corporation a large room over the Left Luggage office at Paragon station, Hull. This Hull Railway Museum was opened to the public on February 24, 1933, by Sir Charles Batho, a director of the L.N.E.R. This was the only municipal museum in the country devoted entirely to railway history. Since that time Mr. Sheppard, who latterly bore the title of Director, Hull Municipal Museums, has paid increasing attention to amplifying his transport exhibits. Unfortunately, as a result of enemy action, the entire collection was burnt out some months ago, and Mr. Sheppard's letter appealing for gifts of further items of railway interest to replace those lost was published at page 104 of our August 1 issue.

XUM

Mr. H. W. Payne

Principal Assistant to the Chief Goods Manager, G.W.R. 1934–1941

Mr. G. Cornish

General Assistant to the Chief Goods Manager, G.W.R.

Mr. David Blee

Appointed District Goods Manager, Birmingham, G.W.R.

Mr. H. W. Payne, who, as recorded in our October 10 issue, has retired from the position of Principal Assistant to the Chief Goods Manager, Great Western Railway, entered the service of the company at Bristol goods station in 1896. Mr. Payne passed through various departments and became Staff Clerk, and was closely associated with the inception and development of the new conditions of service from the first arbitration award to the year 1916. He was then transferred from Bristol goods station to the District Goods Manager's office in the same city, and in 1918 was moved to the Chief Goods Manager's office at Paddington. As Chief Staff Clerk, Mr. Payne gained experience in handling staff and labour matters, and later took charge of the working department in the same office. In this capacity he was associated with the control of supply and circulation of wagon stock, goods train transits, the handling and conveyance of special loads, demurrage questions, and propaganda in connection with the development of 20-ton wagons. In February, 1927, Mr. Payne became Chief Clerk to the Goods Manager, the post he held until 1930 when he went to Newport as District Goods Manager. He returned to Paddington in January, 1933, to take up the appointment of Personal Assistant to the Chief Goods Manager, and in the next November he became Assistant to the Chief Goods Manager. In November, 1934, Mr. Payne was made Principal Assistant to the Chief Goods Manager.

Mr. George Cornish, District Goods Manager, Birmingham, G.W.R., has been appointed General Assistant to the Chief Goods Manager. Mr. Cornish joined the company's service in 1923 and, after experience in the Chief Goods Manager's office, was appointed Staff Clerk in 1926. Three years later he went to Oxford as Goods Agent and in 1931 was transferred to a similar post at South Lambeth. In January, 1933, he was promoted to the goods agency at Bristol and in 1936 was made District Goods Manager, Liverpool. Early last year he became District Goods Manager, Birmingham, the position he now relinquishes on taking up his new appointment.

Mr. David Blee, General Assistant to the Chief Goods Manager, Paddington, G.W.R., has been appointed District Goods Manager, Birmingham, in succes-

Mr. S. H. Creebo

Rates Assistant to the Chief Goods Manager, G.W.R., 1935–1941

Mr. C. H. Coe

Appointed Rates Assistant to the Chief Goods Manager, G.W.R.

Mr. A. C. B. Pickford

Appointed Rates Assistant (Research) G.W.R.

sion to Mr. G. Cornish. Mr. Blee began his career with the company in 1916 in the Chief Goods Manager's office, Paddington. Apart from a break of two years with H.M. Forces, Mr. Blee remained in this department until 1932, when he was transferred to Slough as Goods Agent. After a period as Chief Clerk, Exeter District, he was appointed Assistant District Goods Manager, London, and from 1936 to 1939 was District Goods Manager, Shrewsbury. In February, 1940, he became District Goods Manager, Liverpool, and in April, 1941, was appointed General Assistant to the Chief Goods Manager, Paddington.

Mr. S. H. Creebo, Rates Assistant to the Chief Goods Manager, G.W.R., has retired after completing 43 years of service, the whole of which, with the exception of three years with H.M. Forces, has been spent in the Rates Department. Mr. Creebo began his service with the railway in the Rates Department of the Chief Goods Manager's office in 1898. After experience in most of the rates sections of the department, he was appointed in 1929 to the charge of the section dealing with the Rates Tribunal, Ministry of Transport, and other kindred matters, and, in 1930, was promoted to one of the four supervisory posts in the Rates Department. In January, 1934, Mr. Creebo was made Chief General Clerk in the Rates Department, and in the next year was appointed Rates Assistant to the Chief Goods Manager.

Mr. C. H. Coe, Assistant for Merchandise Rates (Research), G.W.R., has been appointed Rates Assistant to the Chief Goods Manager in succession to Mr. Creebo. Mr. Coe entered G.W.R. service in 1904 and, after several years in the Goods Department at Paddington, was transferred to the Chief Goods Manager's Office, where he passed through several sections of that department. During the last war he was closely connected with the transport of Government traffic and the formulation and subsequent working of the scheme for common user of railway-owned wagons and sheets. He was afterwards engaged on the "journey payment" scheme for the user of wagons and sheets as between the railway companies. In 1926 Mr. Coe was appointed Clerk-in-Charge of the Working Department and played an important part in negotiations with the Association of Private Wagon Owners for the introduction of the commuted payment scheme for empty haulage of private owners' wagons. In 1936 he assumed responsibility for an intensive enquiry into the causes of the depreciation of railborne goods traffic, with particular regard to railway merchandise rates, under the designation of "traffic research." Mr. Coe was appointed Rates Assistant (Research) in 1939. During the past two years he has been associated with general war problems with which the railways have been concerned. He was Chairman of the committee which formulated and launched the scheme for inter-company control of freight rolling stock and is now the G.W.R. representative on the Road-Rail Central Conference which carries with it the chairmanship of the Classification Sub-Committee of that body and also the Goods Managers (Ministry of Food) Liaison Committee.

Mr. A. C. B. Pickford, who has been appointed Rates Assistant (Research), G.W.R., in succession to Mr. Coe, began his railway career at Cardiff in 1915. After experience at stations and district offices in South Wales, he was promoted to Paddington in the Chief Goods Manager's Staff Department in 1929. From 1930 to 1933 Mr. Pickford was engaged on outdoor investigations covering general organisation subjects, goods shed working, and bonus arrangements. He was the Goods Department representative on the G.W.R./L.M.S.R. Closer Working Investigating Committee. In 1933 he became personal clerk to the Chief Goods Manager and in 1934 was appointed Goods Agent, Slough. Early in 1937 he returned to Paddington as Outdoor Representative, Rates Department, and subsequently took charge of the Research Section. He is headquarters' representative on the Road-Rail Regional Committees in which the G.W.R. is interested. Mr. Pickford gained several awards under the company's educational facilities, including first places in both railway law and railway economics at Cardiff Technical College. In 1927 he passed the final examination of the Institute of Transport, with a distinction. He is also a gold medallist of the G.W.R. London Lecture & Debating Society.

Vice-Admiral Ken Terashima has been appointed Minister of Communications & Railways in the newly-formed Japanese Cabinet.

Institute of Transport

The institute examinations in 1941 were held at London, Belfast, Birmingham, Bristol, Glasgow, Leeds, Manchester; also at Bombay in India, Buenos Aires in Argentina, Colombo in Ceylon, Nairobi in Kenya, and Cape Town, Durban, and Johannesburg in South Africa. The successful candidates include the following:—

Associate Membership

Class III

Mr. W. H. Brassington, L.M.S.R.

Mr. S. Charlesworth, L.N.E.R.

Mr. L. Dawson, Cheshire Lines Committee.

Mr. A. J. Fletcher, L.M.S.R.

Mr. S. M. Jayawardana, Ceylon Government Railway.

Mr. E. A. C. Player, L.M.S.R.

Mr. E. H. Thomas, G.W.R.

Part I only

Mr. J. K. C. McGregor, G.W.R.

Mr. E. M. Pollard, Yorkshire Woollen District Transport Co. Ltd.

Mr. S. E. Ratcliff, B.A.G.S.R.

Mr. Priley, L.M.S.R.

Mr. G. Watters, B.A.G.S.R.

Part II only

Mr. W. Glentworth, Sheffield Corporation Transport.

Mr. J. McKee, Northern Ireland Road Transport Board.

Mr. L. R. D. Whitnall, Superheater Co. Ltd.

In addition, the following have been elected to full membership:—

The Hon H. L. Lawrence Anthony, M.H.R., Minister of Transport, Commonwealth of Australia.

Mr. L. R. Christie, Portmaster (Grimsby and Immingham Docks), L.N.E.R.

Mr. John Edwin England, Chairman, State Transport Commission, Queensland.

Rai Bahadur N. C. Ghosh, Chief Operating Superintendent, East Indian Railway.

Mr. J. Ness, Assistant Divisional General Manager (Scottish Area), L.N.E.R.

The following have been elected to associate membership:—

Mr. S. A. Carter, Southern Railway.

Mr. A. R. Dunbar, District Superintendent (Leeds), L.N.E.R.

Mr. H. Hoffman, Administrative Officer, Transport Executive, Lever Bros. & Unilever Limited.

Mr. E. A. C. Player, L.M.S.R.

Mr. S. Smith, Traffic Manager, Potteries Motor Traction Co. Ltd.

Mr. R. B. Temple, Acting District Goods Manager (Leeds), L.N.E.R.

Mr. D. Vine, Southern Railway.

Mr. J. H. Wakefield, Supervising Officer, New South Wales Government Railways.

Indian Railway Staff Changes

Rai Bahadur A. Bholanath has been appointed to officiate as Deputy General Manager (Personnel), E.B.R., as from May 8.

Mr. R. Bonar has been confirmed provisionally as Chief Mechanical Engineer, E.I.R.

Mr. E. G. E. Paddon has been appointed to officiate as Chief Electrical Engineer, E.I.R., as from May 3.

Mr. R. Ramaswamy Ayyar has been appointed to officiate as Deputy Chief Accounts Officer, N.W.R., as from June 14.

Mr. E. M. Egan has been appointed to officiate as Deputy Chief Operating Superintendent (Movement), N.W.R., as from June 3.

The services of Mr. B. C. L. Bean, Divisional Superintendent, N.W.R., have been placed at the disposal of the Defence Department as from May 15.

Mr. W. R. Bumstead has been appointed to officiate as Deputy Chief Engineer, Signals, N.W.R., as from June 11.

Mr. G. C. Laughton, whose services are lent to the B.B. & C.I.R. as Agent & General Manager, has been permitted to retire from Government service as from June 21.

Khan Bahadur Nizamuddin, of the N.W.R., has been appointed by the Department of Communications to officiate as Government Inspector of Railways No. 4 Circle, Lahore, with effect from June 15, under the new inspection directorate scheme. He replaces Mr. P. W. Wilton Davies, whose services have been placed at the disposal of the Railway Department.

Mr. A. C. Vining has been confirmed as Deputy Chief Operating Superintendent, N.W.R.

Messrs. F. G. Griffith, O.B.E., E.D. (Divisional Superintendent), B. L. Cameron (Deputy General Manager, Personnel), V. L. Dean (Gen. Sec., I.R.C.A.) and R. Proudlock have been confirmed as Deputy Chief Commercial Managers, N.W.R.

Sardar Bahadur S. S. Gyani has been appointed to officiate as Divisional Superintendent, Ferozepur, N.W.R.

Mr. T. G. R. Eagan has been appointed to officiate as Divisional Superintendent, Lahore, N.W.R., during the absence on leave of Mr. W. T. Biscoe.

The death in Holland on September 6 is reported of Jonkheer Hugo Loudon, Chairman of the Royal Dutch Petroleum Company and of the Deli Tobacco Company. Jonkheer Loudon was born in 1860 and was educated in Holland, taking an engineering training. In 1889, he became an engineer in the service of the South African Railways and remained there until 1893 when he joined the petroleum company.

XUM

TRANSPORT SERVICES AND THE WAR—112

Air raid casualties in September—Overcoming peak hour travel congestion—Volunteer assistants — New Franco-German frontier stations — German passenger services and freight traffic—Italian timetable—World fuel position

The Ministry of Home Security has announced the following figures of civilian casualties due to air raids in the United Kingdom during the month of September :—

Killed, or missing and believed killed	217
Injured and detained in hospital	269

The details are as follow :—

—	Men	Women	Children under 16	Unclassified
Killed or missing	87	73	45	12
In hospital	129	111	29	—

The figures for September, 1940, were: killed, 6,955 injured, 10,624.

" Defence " Train to Tour India

An exhibition " Defence " train—the first of its kind in India—is to tour the country shortly. The train, which is over a quarter of a mile long, consists of coaches and vans depicting realistic scenes of air, sea, and land battles, including the Battle of Keren. The coaches are painted with camouflage designs. They contain a four-inch naval gun, a tank, a field gun, an armoured carrier, and an advanced field dressing station, in addition to models of warships and transport vehicles.

Transport Controller and Transit Controller in Canada

To dispel any confusion that may have arisen over the apparent similarity of duties of the Transport Controller and the Transit Controller in Canada, as a result of the appointment of the latter, the Hon. C. D. Howe, Canadian Minister of Munitions & Supply, recently defined the respective functions of the two officials. Mr. T. C. Lockwood, of Montreal, was appointed Transport Controller in November, 1939. Acting under the direction of the Minister of Transport, he is authorised to direct the movement of munitions and supplies by rail or water in Canada and by sea from Canada to outside destinations. The Transport Controller also supervises the handling, routing, and movement of all Army, Navy, and Air Force personnel, determines the priority of these movements, and issues priority permits.

Mr. W. J. Lynch, of Quebec, the Transit Controller, on the other hand, acts under the direction of the Department of Munitions & Supply. He has control over any system, line, or other means of transporting passengers from place to place for hire, including buses, tramcars, ferries, etc. He has the power to establish tables or schedules of fares or rates to be charged by these transport agencies. He has the authority to issue, reissue, or cancel permits or licences in respect of the above ; to prohibit, restrict, limit, or extend the parking of vehicles. Mr. Lynch is empowered to stagger working hours to relieve transport congestion, and may order any employer to arrange or alter the hours of employment of employees in order to assure that such proportions as the controller may fix, will, as far as possible, arrive at, or depart from, their places of employment at such times as may be directed.

War Activities in Western Australian Workshops

The Premier of Western Australia and the Minister for Railways in company with the Commissioner of Railways (Mr. J. A. Ellis) visited the railway workshops at Midland Junction recently to see work being done at these shops in connection with the Western Australian war effort. Referring to the visit, the Premier said that he had never seen the workshops busier, and that a big proportion of the activities concerned defence work. The new shell annexe, which had been under construction for some months, was now complete at an estimated cost of £50,000. It covered an area of approximately 57,000 sq. ft. The new building was actually an extension of the existing workshops, and after the war, when the necessity for manufacturing munitions had ceased, it would form a very useful adjunct to the workshops in meeting the ever-growing peacetime demands on the establishment. He also commented on the fine spirit shown by the men in meeting the demands on them for additional effort. Work, he said, was proceeding smoothly, with double shifts operating in some sections and overtime in others. The workshops had recently tackled jobs previously thought beyond their scope, and by ingenious improvisation they had turned out work of a very high standard, reflecting credit both on the administration and the men concerned. Though members of the public could not be given details of what was being done, they could be assured that no effort was being spared to use the workshops to their full capacity consistent with available personnel, and that the work performed was a credit to the workers employed.

Diversion of Traffic through Lourenço Marques

The South African Minister of Railways has broadcast an appeal to all importers to bring as much as possible through the port of Lourenço Marques instead of Durban in order to relieve the strain on the latter port. So that merchants may be encouraged to do this it has now been arranged that Union importers and exporters will obtain the benefits of the War Damage Insurance Act, 1941, on goods imported into or exported from the Union through Lourenço Marques, and during transit through Mozambique territory, in exactly the same manner as goods consigned within the Union and handled at Union ports. Not only will importers benefit directly by quicker clearance and delivery of their goods, but, by co-operating with the railway administration in this matter, the commercial and industrial community will be affording valuable assistance to the war effort of the Government and the railway administration at the present time.

Increased rates on goods consigned from Port Elizabeth-East London, and Durban to the competitive area of the Transvaal came into operation on July 1. The object of these increases is to divert traffic from the three Union ports concerned to Lourenço Marques which, in terms of the Mozambique Convention is entitled to handle 47½ per cent. of the sea-borne traffic destined for the competitive area. Rates 1 and 2 are increased by 6d. a 100 lb. (or 10s. a ton) ; rate 3 by 3d. a 100 lb. (or 5s. a ton) ; and rates 4, 5, and 6 by 2d. a 100 lb. or 3s. 4d. a ton.

Priority Transport for Workers

Reference was made in THE RAILWAY GAZETTE of September 19, at page 285, to steps which had become necessary in some parts of the country to evolve means of ensuring that available transport was placed primarily at the disposal of those most needing it rather than the casual traveller. This was due to the increasing calls on road transport for the movement of workers, coupled with petrol restrictions and demands on man power. Further details are now available of action which has been taken in this matter. On October 6, the West Riding Automobile Co., Ltd., J. Bullock & Sons (1928) Ltd., and South Yorkshire Motors Limited, began the issue of priority badges (one of which we reproduce) with a view to affording travel preference to workers on their way to and from their employment in the West Riding of Yorkshire. The badge is the Yorkshire rose outlined in green on a white background, with the words " Travel Priority " in green and a black number. The times for preference travel have been fixed as from the beginning of service to 9 a.m., from noon to 2 p.m., and from 5 p.m. to 7 p.m. The service,

provided by these undertakings link mining and industrial districts over a large area, and the badges are for use on all the local routes in the Wakefield, Castleford, Pontefract area, and on services running between Wakefield and Castleford on the one hand and Leeds, Bradford, Dewsbury, Barnsley, Huddersfield, Selby, and Doncaster. These are believed to be the only districts where priority badges have been issued so far.

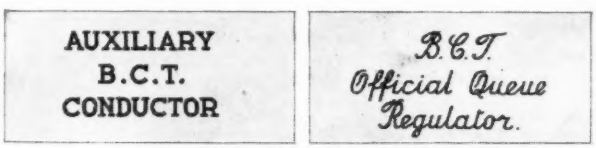
In the Glasgow area a form of rationing of bus travel began on October 6, with the introduction of limited-journey weekly tickets on bus routes from Glasgow to Milngavie, Drymen, Balmaha, Balfron, and Stirling, within a radius of 1s. single fare distance from the city. They replace the old season tickets which allowed unlimited travel. Passengers affected may now buy only six-day tickets, which confines them to either 12 or 24 journeys in the period—that is, either one or two return journeys every day, excluding Sunday. The price of the new 12-journey ticket is 3s., and of a 24-journey ticket 4s.

The Western National Omnibus Co. Ltd. has announced its intention of introducing experimentally on its Plymouth—Dean Cross—Hooe, Plymouth—Wembury, and Plymouth—Elburton routes a scheme for the issue of special permits to workers and business people who have to make essential regular journeys before 9 a.m. The scheme is open to participation by all firms. The Devon General Omnibus & Touring Co. Ltd. is considering a similar scheme for the Torquay area.

Volunteer Bus Conductors

Some details were given in THE RAILWAY GAZETTE of September 26, at page 309, of the schemes for auxiliary tram and bus conductors to help regular conductors at peak hours as being applied by Leeds Corporation Transport Department and already in use by Darwen Corporation Transport. The first of the Leeds auxiliaries began their duties on October 8; they wore similar brassards to that of the Birmingham City Transport Department, reproduced below.

The Birmingham City Transport Department adopted the volunteer auxiliary conductor system as long ago as December 10, 1940, and approximately 1,500 auxiliary conductors are now helping to speed up journeys, particularly during the peak hours. Two types of brassard (reproduced herewith)



are issued to volunteer workers, one to the auxiliary conductors, and the other to queue regulators. Passengers are not called upon to pay their fare while doing duty as auxiliary conductors. The department is now arranging for a number of the auxiliary volunteers to be trained as part-time conductors, and recently the first batch of about 60 attended the preliminary course of instruction. As they have already had considerable experience of platform work it is possible to compress the training into one day. After the preliminary course the part-time conductors are given some hours of actual platform work under a regular conductor or conductress and when proficient they undergo a final test. It is proposed to ask these part-time conductors to do a full day's duty every other Sunday, for which they will be paid at the full conductor's rate. They are provided with dust coats as uniform, and wear the auxiliary conductor brassard.

The Liverpool Passenger Transport Department has extended an invitation to regular passengers on trams and buses to help as auxiliary conductors during rush hours, and there has been a ready response. The department proposes to issue a distinctive blue armlet and white metal badge. The volunteer will stand on the platform, and, while the conductor is otherwise engaged, will be responsible for operating the bell signal to the driver, for stopping and restarting the vehicle. Collection of fares is primarily the duty of the regular conductor, but the volunteer is empowered to receive fares from alighting passengers and to pass the money to the conductor against the issue of tickets. The volunteer will also call out the names of stopping places, and, in return for performing these duties, will travel to his or her destination free of charge. The scheme was begun on October 8, and we hope to give further details in a subsequent issue.

New Frontier Stations between France and Germany

The following particulars of newly-established frontier stations between France and Germany are additional to those given in the table which we published at page 224 of our August 29 issue.

French name	German name	Remarks
Montreux Vieux ...	Altmünsterol Grenze ...	First station on the west side of the present boundary is Petit Croix, 1·86 miles (3 km.) to the west of Montreux Vieux.
Chambéry (not Chambrey)	Kambrich Grenze ...	First station to the west of it is Moncel, 0·62 mile (1 km.) from Chambéry.
Novéant	Neuburg (Mosel) Grenze	First station to the south-west of Novéant is Pagny-sur-Moselle, 23·59 miles (38 km.) north of Nancy.
Redange	Redingen	First station to the south of Redingen is Hussigny-Godbrange, 6·2 miles (10 km.) east of Longwy.
Rodingen	Rodingen	First station to the south of it is Mont Saint-Martin, 4·34 miles (7 km.) from Rodingen, and 1·24 mile (2 km.) north of Longwy.

German Wartime Passenger Services

Since the German train services were last reviewed in detail in the March 22, 1940, issue of THE RAILWAY GAZETTE, there have been relatively few changes in the services as indicated by the public timetables. Contrary to what happened in Great Britain, the first German war emergency services proved too optimistic, and by early in 1940 a considerably reduced and decelerated timetable had come into operation. In large measure the latter still forms the basis of the summer Reichsbahn timetable, which came into operation in May last. This shows no further reduction in frequency, though certain trains, as previously, are announced to run only when special notice has been given. Additional to the ordinary services, however, special leave trains for the Forces are included in the public timetables. Restaurant and sleeping cars are still shown for all the principal day and night trains. Shortly after this timetable was issued, an announcement of May 21 last stated that 21 important German express trains, half of them with sleeping cars, had been withdrawn from the Reichsbahn timetable, partly owing to shortage of rolling stock and partly for reasons of economy in the use of coal. Since then there have been other reports of curtailments, some possibly temporary.

In connection with the current timetable, therefore, it should be borne in mind that precise information is lacking as to how far the services have been disorganised by the exigencies of war requirements and by R.A.F. and Russian air raids. The timetable is, nevertheless, of considerable interest as exemplifying what the German authorities regard as the " normal " practicable war service. As compared with the previous timetable some tendency to more deceleration is perceptible. Between Berlin and Hamburg, 178·2 miles, the best time (3 hr. 39 min.) entails an average speed of 48·8 m.p.h.; the average time of six trains daily in each direction is 3 hr. 49 min. There are 8 effective services from Berlin to Cologne and 9 in the reverse direction (excluding leave trains); these include an all-sleeping-car train for first, second, and third class passengers, and one express day service, first and second only, taking 8 hr. 20 min. westbound and 8 hr. 12 min. eastbound for the 362·8 miles. The westbound express is booked at 51·5 m.p.h. from Berlin Zoo to Hanover (157·8 miles in 184 min.), and 51·0 m.p.h. from Hanover to Bielefeld (68·0 miles in 80 min.). The average journey time of 9 hr. 30 min. between Berlin and Cologne compares with 9 hr. 8 min. early in 1940, and 7 hr. 29 min. in peacetime. Nuremberg and Munich also have an all sleeper train from and to Berlin; the average time of six daily trains in each direction between Berlin and Munich, 405·4 miles, is 10½ hr. exactly as in the early part of 1940, and compares with 9 hr. 25 min. in peacetime. The fastest

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Der Güterverkehr, den die Deutsche Reichsbahn im großdeutschen Raum zu bewältigen hat, ist gewaltig angestiegen. Verkehrsplan, Rüstungsbedürfnisse, Versorgung der Bevölkerung und vor allen Dingen unsere Wehrmacht stellen größte Anforderungen an den Güterwagenpark. Alles kommt daher darauf an, jeden vorhandenen Güterwagen bis zum letzten auszunutzen.
Auf jeden Kilometer kommt es an!
Täglich laufen ungenügend ausgelastete Güterwagen über weite Strecken. Viele Kilometer werden wegen falscher und mangelhafter Ausfüllung der Frachtbriefe und Begleitpapiere unnötig zurückgelegt. Tausende Kilometer gehen täglich für die Beförderung verloren, weil durch unzweckmäßige Arbeitseinteilung beim Verlader oder Empfänger Güterwagen nutzlos stillstehen. Jede Ersparnis an Kilometern bedeutet aber bei der Güterwagenknappheit Ersparnisse an Wagenraum. Denken Sie daher stets daran, daß es bei dem Beladen auf volle Ausnutzung des Ladegewichts und der Tragfähigkeit ankommt. Im innerdeutschen Verkehr ist eine Beladung bis zu 1000 kg über die am Wagen angeschriebene Tragfähigkeit hinaus gestattet. Sorgen Sie dafür, daß jeder Wagen möglichst bis zu dieser Höchstgrenze ausgelastet wird. Achten Sie peinlich auf das richtige und vollständige Ausfüllen der Frachtbriefe und Begleitpapiere, damit kein einziger Kilometer durch Irrlauf oder Verzögerung verschwendet wird. Prüfen Sie bitte auch dieses: Können Sie Ihre Rohstoffe oder Halbfabrikate von einer nähergelegenen Erzeugungsstätte beziehen? Wenn es Ihnen zunächst schwer fällt, Sonderwünsche zurückzustellen, so denken Sie bitte daran, was es für den Wagenumlauf und damit für den gesamten Güterverkehr und so für Sie selbst bedeutet, wenn die Anlieferungsstrecke von 300 auf 100 Kilometer verkürzt wird.
Hilf der Deutschen Reichsbahn und Du hilfst Dir selbst!
Beachten Sie diese 10 wichtigen Regeln für den Versender!
1. Güterwagen schnellstens be- und entladen. Rückgabe der Wagen möglichst ohne Ablauf der Ladefristen. Überschreitung der Ladefrist hat Ausfall wertvollen Ladenraums zur Folge.
2. Wagen rechtzeitig und nur für den tatsächlichen Bedarf bestellen. Angebotene Ersatzwagen verwenden, selbst wenn kleine Unbequemlichkeiten damit verbunden sind.
3. Pünktliche An- u. Abfuhr der Güter. Mit der Be- und Entladung sogleich nach Wagenbereitstellung beginnen.
4. Für Güterwagen gibt es kein Sonntagsruhe. Daher Güter, wenn möglich, auch Sonntags verladen. Für eingegangene Güter besteht die Pflicht zur Entladung an Sonntagen.
5. Güterwagen beim Be- und Entladen nicht beschädigen. Ladermaße einhalten. Güter ordnungsmäßig und betriebssicher verladen.
6. Durch zweckmäßige Ladegeräte und Hilfsmittel das Be- und Entladen erleichtern.
7. Ausnutzung der Wagen bis zum Ladegewicht und nach Möglichkeit sogar im innerdeutschen Verkehr bis 1000 kg über die am Wagen angeschriebene Tragfähigkeit. Raumersparnis durch geschicktes Stapeln der Güter, ganz besonders durch sachgemäßes und übereinander Verladen sperriger Güter.
8. Nicht mehr Güter zu gleicher Zeit beziehen, als sogleich entladen werden können.
9. Entladung sofort beim Eingang der Versandanzeige des Absenders oder bei der Vorausleitung durch die Güterabfertigung anordnen. Fuhrwerke und Ladepersonal schon im voraus für die Zeit der bevorstehenden Entladung bereithalten.
10. Frachtbriefe und sonstige Begleitpapiere sorgfältig ausfüllen zur Vermeidung von Irrläufen.
Bitte ausschneiden, aufheben und immer wieder lesen!

The first of a series of advertisements inserted by the German State Railway in various newspapers as part of a campaign to secure the maximum effective use of goods wagons

peace schedules of 2 hr. 17 min., 5 hr. 5 min., and 6 hr. 44 min. (all by diesel streamliner) between Berlin and Hamburg, Cologne, and Munich compare with the best war schedule of 3 hr. 39 min., 8 hr. 12 min., and 9 hr. 21 min. respectively.

Freight Traffic in Germany

We have recently received through a neutral channel copies of a series of six advertisements inserted in various German newspapers by the Reichsbahn as part of a campaign to secure the maximum effective use of goods wagons. Reference to these has already been made in our columns on a number of occasions, notably at page 650 of our December 20, 1940, issue. Each of the series contains a panel asking senders to note ten important rules, a translation of which is as follows :—

SENDERS PLEASE NOTE THESE 10 IMPORTANT RULES

1. Goods trucks to be loaded and unloaded in the minimum of time. Trucks to be returned preferably before expiration of the time limits ; if the time limits for loading and unloading are exceeded, the result will be loss of valuable loading space.
2. Trucks to be ordered in good time and only for actual requirements. Use substitute trucks offered even if this means some slight inconvenience.
3. Goods to be delivered and removed punctually. Begin loading and unloading immediately the trucks are placed at disposal.
4. There is now no Sunday rest for goods trucks. Please therefore load goods also on Sundays if possible. It is obligatory to unload goods received on Sundays.
5. Do not damage goods trucks during loading and unloading. See that the loading measurements are adhered to. See that goods are properly and safely despatched.
6. Facilitate the loading and unloading by using suitable tackle and gear.
7. Load the trucks to capacity, and for traffic within Germany load them if possible up to 1,000 kg. in excess of the prescribed carrying capacity. Save space by skilful stacking of the goods ; bulky goods more especially to be stowed expertly and carefully.
8. Do not buy more goods at a time than can be unloaded in good time.
9. Make arrangements for unloading immediately on receipt of the sender's forwarding advice or the preliminary advice from the clearance depot. Arrange beforehand to have carts and men ready for the time of the unloading.
10. To avoid mistakes make out waybills and other documents carefully.

Please cut this out, keep it, and read it again and again.

We reproduce herewith the first of this series of German press advertisements. The following is a translation of the wording apart from the ten rules :—

EVERY KILOMETRE IS OF MOMENT.

Every day insufficiently loaded goods trucks travel over long distances. Many kilometres are covered unnecessarily owing to waybills and documents being wrongly or faultily made out. Thousands of kilometres are lost to traffic daily due to trucks standing idle unnecessarily because of unsuitable working arrangements on the part of the sender or receiver. Any saving of kilometres means a saving of truck space in view of the shortage of trucks. Please therefore always bear in mind when forwarding goods that the full use of the loading weight and carrying capacity is of importance. For traffic within Germany it is permissible to load up to 1,000 kg. in excess of the carrying capacity marked on the truck. Please see that every truck is loaded up to this limit if possible. Be very careful to see that waybills and other documents are correctly and completely filled in, so that not a single kilometre be lost through errors or delay. Please also consider this : Can you buy your raw materials or half-finished goods from a nearer place of production ? Should you first of all find it difficult to subordinate your own special wishes, please consider what it will mean for the truck traffic and therefore also for the whole goods traffic and consequently for you yourself if the travelling distance is reduced from 300 to 100 kilometres.

Help the German Reichsbahn and you help yourself

The Italian Summer Timetable

In Italy, where most of the principal main lines are now electrically operated with hydro-electric power, the principal main-line services are shown in the timetable to be more frequent than in any other of the belligerent countries on the mainland of Europe, though considerably decelerated. There are eight trains in each direction daily over the 392·1 miles between Milan and Rome, the best taking 8 hr. 50 min. (44·4 m.p.h. including stops), and the mean of 9 hr. 38 min. indicating a general average overall of 40·7 m.p.h. In peace the streamline *rapidi* had come down to 6 hr. on this journey. The best time over the Rome-Naples *direttissima*, 130·2 miles, is 2¾ hr. (47·3 m.p.h.) ; the best between Turin and Milan, with operation by steam, is, however, 2½ hr. for the 91·3 miles (36·5 m.p.h.). As regards Italo-German communications, there are through services between Berlin and Rome ;

Vienna and Rome; Munich and Rome, Trieste, Turin, Milan, Bologna, and Merano; the Berlin-Rome journey is one of 28 hr. A through service, with sleeping cars, runs between Paris and Rome, and takes 28½ hr. southbound and 34½ hr. northbound; also between Paris, Marseilles, and Genoa, *via* the Riviera, with a 28 hr. southbound and a 28½ hr. northbound journey. To and from Switzerland there are through services between Geneva and Rome; Geneva, Lausanne, and Milan; Zurich, Milan, Genoa, and Ventimiglia. A daily through service is also maintained between Turin and Nice *via* Breil.

Doubling the Gotthard Railway

Steadily increasing traffic on the Gotthard Railway has made the doubling of remaining single-track sections more urgent. Work on the Brunner—Fluelen section, 8 miles long—at a cost of fr. 23,000,000, eight million of which will be contributed by the Swiss Treasury—is being speeded up. In this section there is one tunnel of over two miles long which is now expected to be completed towards the end of 1941. It is hoped that the whole section will be ready for service during the second half of 1942.

Defence Transport on the Swedish State Railways

The increase in the volume of goods traffic on the Swedish State Railways, to which reference is made in an editorial article at page 403 of this issue, is due principally to the services carried out in connection with the country's defence preparation. Transport figures relating exclusively to defence measures, and which normally aggregate 15,000 *tonnes* a year, rose to 339,000 *tonnes* in 1940. To this must be added all the additional transport required for work only indirectly referring to defence as, for instance, conveyance of hay and straw for the Forces, mainly to the country's northern provinces. These two commodities increased from 49,000 to 176,000 *tonnes* in 1940, whilst flour went up from 136,000 *tonnes* in 1938 to 233,000 *tonnes* in 1940. Consignments of commodities conveyed to various centres for the purpose of accumulating stocks formed another heavy item. The quantity of cereals transported, including those sent to assist Finland, increased from 115,000 *tonnes* in 1938 to 383,000 *tonnes* in 1940. Although, due to the shortage of supplies from abroad, the consumption of mineral oils is very low in Sweden at present, these contribute to a considerable extent to the railway task, more so as shipments of oils, instead of arriving at the usual ports, were at times landed in out-of-the-way harbours, thus necessitating longer conveyance by rail. Consignments of oils aggregated 286,000 *tonnes* in 1940, as compared with 180,000 *tonnes* in 1938.

The Indo-Caspian Land Route

As foreshadowed in the article entitled "Our Eastern Approach to Persia," published in our issue of October 3, it is now learned that this alternative route for supplies from India to Russia is already being used. In fact, consignments of raw materials reached Meshed—by rail *via* Quetta to Zahidan (Duzdap) and thence by road—during the last week in September. Well away from all likely enemy interference, this combined rail and road route should prove an invaluable line of communications for sending much-needed help to the Russians. Information regarding the present condition of the Zahidan—Meshed road is unknown, but it is understood to be suitable for mechanical transport, and the distance is about 820 km. (say 510 miles). Beyond Meshed there are at least two road routes that might be used, but the most direct to the Krasnovodsk-Tashkent or Trans-Caspian Railway is about 250 km. in length (155 miles). The inter-railway road route is, therefore, about 665 miles in length and the distance from Quetta to the Caspian coast is somewhere in the region of 1,500-1,550 miles.

World Fuel Position

The Minister of War Transport has taken steps to prevent the illicit use of petrol by motorists who have unjustifiably adapted their cars as goods vehicles, and have obtained "C" class permits for higher basic rations. He has announced that the Regional Transport Commissioners, if satisfied that an application is not genuine, may refuse the applicant more than the normal amount of petrol for a private car. The basic petrol ration for goods vehicles was cut by one-fifth from October 18. No supplementary allowances are to be granted for retail delivery vans unless it is proved that the goods concerned are essential, that they must be delivered by road, and that steps have been taken to pool services.

It is announced from Madrid that from October 1 no petrol-driven cars will be allowed on the roads throughout Spain between 2 p.m. on Saturdays and 2 p.m. on Mondays, except official cars on Government duty. Taxis over 15 h.p. are to be withdrawn unless they are gas driven.

The South American Journal states that the Rio de Janeiro bus service is being curtailed, except during rush hours, because of expected petrol import restrictions. Petrol has already been rationed in Rio Grande do Sol and Bahia. The management of the Central Railway of Brazil has forbidden the use of petrol except where absolutely necessary.

According to the Moscow Radio, motorcar traffic in Roumania has been suspended on all roads served by railways, and has practically ceased in the cities.

It is reported from Rome that private car owners in Italy have not been able to renew their licences since October 1.

Petrol is to be rationed in Turkey. The use of buses will be forbidden in towns except Ankara, Istanbul, and Smyrna.

Alternative Fuels

Tests are being carried out in this country in the forcing of a fine spray of fuel oil into the furnace of producer-gas plants in order to increase the calorific value of the gas, by cracking the oil and producing methane and other hydrocarbons of low molecular weight.

Because of the critical position of the gas undertakings in Eire, apparently due to the shortage of coal, the use of town gas for motor vehicles is to be prohibited; this decision does not affect producer-gas vehicles.

It is reported that 150,000 motor vehicles in Germany and German-occupied lands are running on producer gas, giving an estimated petrol saving of 10,000,000 gal. a month.

Although some thousands of producer-gas vehicles are used in Australia, there were only 318 such vehicles in New South Wales on April 30 last, and of these 162 were lorries, 117 private cars, and 5 buses.

The Brazilian Government has decreed that owners of lorries and buses in that country must adapt at least one vehicle out of every 10 to producer-gas propulsion. Reports say that experiments with 5-ton lorries show a charcoal consumption of one kg. per km. on level roads and 0·6 kg. with smaller lorries. Efforts are being made to build 100 mobile producer plants which are to be sold by the Department of Agriculture.

Nearly 400 buses and lorries, of which 328 are converted petrol vehicles, in Indo-China are now running on producer gas, and are said to save the importation of 750,000 gal. of petrol a year. They use charcoal fuel, and according to local reports 1,000 road vehicles, including motorcars, will be operating on producer gas by the beginning of 1942. The hilliness of the roads in the north (Tonkin, Annam, Laos) has prevented the producer-gas vehicles there being as successful as those used in the southern part of the country.

At the present time 15 passenger buses are operating on a mixture of 30 per cent. creosote and 70 per cent. fuel oil at Southport, Lancs, and the number is to be increased. The use of creosote is enabling the transport department to give an extra 1,000 miles a week of bus services. The possibilities of creosote mixtures are examined in the report of the Home Fuels Sub-Committee of the Diesel Engine Users Association issued recently.

Economy in Use of Tyres in Italy

In order to prolong the life of tyres, the Italian authorities have restricted the speed of motorcars to 35 m.p.h., and of buses and vans to 12 m.p.h.

European Air Lines

A new air service between Arad and Bucharest *via* Brasov and Sibiu was inaugurated on May 19, by the local air transport company, LARES. This route is also served by the Deutsche Luft Hansa flying non-stop between the terminal points, and by another LARES service running *via* Craiova and Turnu Severin between the same terminal points of Arad and Bucharest.

XUM

Parliamentary Notes

Railways and Postwar Planning

In the House of Lords on October 14 Lord Monkswell asked whether the technical and administrative development of British railways was included in the Government planning for the postwar period. He said that now that the Government had taken over responsibility for railway finance—a responsibility that would obviously have to continue for some time after the war, if not permanently—it automatically became directly interested in railway efficiency.

The invention of railways had produced a completely new set of conditions. The first bad mistake had been made when there had been a failure to appreciate the scale of future requirements, which had led to the adoption of a too narrow gauge of the rails, and insufficient breadth and headroom. The consequence was that British railways had never been so economical to work as they would have been if they had been built to enlarged dimensions. An even more serious trouble had been the absence of competition. From the beginning railways had shown themselves so superior to any other form of inland transport that no competition was possible. There had grown up a race of railway officials whose dominant idea had been a quiet life, with the least possible amount of change and development. They had succeeded so well that, though it could not be said that development had ceased altogether, its pace for fully 80 years had been so desperately slow that all sorts of unfortunate results had followed. Finally, some ten years before the present war, things had become so bad that the railway managements had awakened. The old inertia had disappeared, and a whole series of great improvements had been made. Most of these, which had comprised improvements to permanent way, engines, signals, and passenger and goods services might just as easily have been put in hand in 1850.

As to technical efficiency, the railways had attended to that fairly satisfactorily in the years immediately before the present war, and so long as that continued little interference was necessary.

One of the worst defects of British railways had always been neglect of punctuality. The railways had been terrified of issuing to their men any clear printed instructions about making up lost time. Most big European railways issued clearly-defined, printed instructions so that their men knew exactly where they were and what was expected of them. The electrification of surface railways was a matter that repaid very close investigation. Many competent critics believed it to be a serious mistake, and there were no figures available to the public to do anything to dispel that belief.

There was much to be done in the way of improving the steam locomotive. It was not far wrong to put the average of useful work performed by all the locomotives in this country at something between 5 and 6 per cent. of the power set free by the complete combustion of the fuel used. A number of simple improvements had made it possible to build engines that returned 11 per cent.—they did double the work for each unit of fuel burned. The coal burned by all the engines in this country in the course of a year was about 13,000,000 tons. He did not suggest that this could be halved, because the engines which returned 11 per cent. were no doubt in a better state of repair than the average engine in this country, but he thought that to save a quarter was well within the range of possibility. That would economise more than 3,000,000 tons of coal, costing about £3,000,000.

Ever since the introduction of railways there had been trouble with railjoints. It was gradually becoming apparent that this defect could be overcome. Longer and longer rail-lengths had been laid down, with a corresponding reduction in the number of joints, and it had been found that the intervals left for expansion need not be lengthened as the rail was lengthened. Really solid and strong permanent way, with the rails firmly attached to the sleepers, seemed to have such a grip of the rails that their tendency to expand with the heat could be overcome, and very long continuous lengths could be secured by welding. That major improvement had not yet proceeded far, but it should be energetically pursued and planned for.

Lord Balfour of Burleigh said that 1850 was a good long time ago, and one development of modern science alone, electrical science, was non-existent in 1850. The importance of punctuality was a point which had occurred to railway managements and he thought it was fair to say that the greatest enemies of punctuality were frost, and snow, and fog, and other natural difficulties. One could not give instructions to men about making up time without very great regard to the speeds which must not be exceeded. He did not belittle the importance of punctuality and it was the constant endeavour of railways to achieve it.

Lord Monkswell's suggestion that the average efficiency in this country of steam locomotives was something like 5 or 6 per cent., was, he thought, a little low. His impression was that a better efficiency than that was obtained, but not the efficiency of 11 per cent., which Lord Monkswell had stated had been attained elsewhere. He was sure the chief engineers of the railway companies would be interested to have particulars of a steam locomotive working to 11 per cent. of efficiency. At the time the war began work had been proceeding at the cost of a very large sum of money—something running into hundreds of thousands of pounds—on a locomotive testing plant which was being established jointly by the London Midland & Scottish Railway and the London & North Eastern Railway which would undoubtedly have tended greatly in the direction Lord Monkswell wanted. The extent of the capital expenditure which had been incurred by the railways on improvements in the ten years from 1928 to 1938 had been no less than £260,000,000. The total capital expenditure of all railways was £1,175,000,000, so that expenditure of £260,000,000 on improvements of all sorts derived both from capital and revenue was striking proof of the efficiency of the railways and their desire to secure further efficiency by every possible means.

He hoped the Government would think once, twice and three times, before it felt sure that it had invented a method of railway administration which would be more efficient than that which was already in being. He was inclined to think that the largest of our railway companies were somewhere near the limit of size and undertaking by which efficiency could easily be secured. The total personnel of all the railways was over 550,000. The annual wage bill of the railways amounted to £123,000,000. The task of administering the railways as one unit would be beyond the capacity of ordinary business people and certainly beyond the capacity of civil servants seated in Whitehall.

The Minister of War Transport (Lord Leathers) said that the motion related, primarily, to postwar planning, planning for the efficient and proper development of our railways. Such a subject had the most intense interest and consideration of His Majesty's Government. Postwar transport could not be considered by itself alone. The consideration of all forms and methods of transport would be involved, and, as he saw it, these were so closely interlinked that they must be considered together. It would take up a great deal of time to recite the progress made in new works and marshalling yards, in new types of locomotives and in many other ways under the Railways (Agreement) Act of 1935. Under that Act the main-line railways had expended over £16,000,000 up to September, 1939, and over the same period the London Passenger Transport Board had expended some £23,000,000. This new work was in execution of schemes for speeding up traffic and generally improving railway facilities in the country. With the changes brought about by the incidence of war production, other developments had been called for, and a large amount of work had been carried out during the period of Government control so as to achieve a greater throughput of traffic, particularly in certain areas where, by reason of these changes, exceptionally heavy traffics have had to be handled.

Questions in Parliament

Below are summarised Answers to Questions in Parliament affecting transport. The Minister concerned and the date of the Answer are given in parentheses.

Winter Conditions on Roads

At the present time the competing claims for war equipment would make it impossible to provide every highway authority with snowploughs or similar snow-clearing equipment. Such equipment is, however, available in areas where it is most likely to be needed, and 100 highway authorities which were not fully provided have taken advantage of an offer recently made by the Ministry, of a grant towards the cost, and have ordered equipment. (Colonel J. J. Llewellin, Joint Parliamentary Secretary to the Ministry of War Transport, October 7.)

Petrol Rationing

Consultation with the Government Departments concerned, as well as with the associations representative of the trade, has resulted in the preparation of an Order, which will be issued shortly, to check and control the utilisation of petrol for undisclosed or unnecessary journeys through the system of drive-yourself hiring of motor cars with petrol supplied. (Mr. Geoffrey Lloyd, Secretary for Petroleum, October 7.)

Besides allowances granted by the Petroleum Department, supplementary issues are in many cases drawn by motorists from Government Departments, local authorities, and other bodies for work connected with the war effort. In those circumstances no definite percentage can usefully be quoted of the total number of licensed private motor cars which was represented by the number of private motor cars for which supplementary rations of motor fuel were issued in the last ration period. (Mr. Geoffrey Lloyd, October 7.)

Non-Smoking Compartments

There is no intention of reducing the number of non-smoking compartments on those suburban trains which are now third class only. The railway by-laws make it

an offence to smoke in a non-smoking compartment. (Colonel J. J. Llewellin, October 8.)

Privately-Owned Railway Wagons

All privately-owned railway wagons, with the exception of certain special types, were requisitioned at the beginning of the war and are operated by the railway companies in a common pool. The number of such requisitioned wagons on September 6, 1941, was 577,957. There is no present intention of exercising the powers of purchase conferred by Section 13 of the Transport Act, 1919. (Colonel J. J. Llewellin, October 8.)

Disposal of Service Motor Vehicles

Between January 1 and October 1, 1941, approximately 14,300 War Office vehicles were returned from Service use. Of these, 3,500 were repaired by the Ministry of Supply and allocated to the Ministry of War Transport for use by other Government Departments. A further 10,000 were sold by tender, and no conditions were imposed as to ultimate use. The remaining 800 have been disposed of under an agreement made in August last between the Ministry of Supply and the Society of Motor Manufacturers & Traders Limited, whereby disposable vehicles are sold to their original manufacturers for resale to the public under controlled conditions. It is intended that that system should replace sale by tender. The prices paid both by the society and by the public are determined by an agreed formula, and the employment of assessors is not therefore necessary. Instructions have been issued for the obliteration of divisional and all other Service distinguishing marks before the vehicles are handed over to the Ministry of Supply, which has also taken steps to ensure that this obliteration is complete. (Mr. Harold Macmillan, Parliamentary Secretary, Ministry of Supply, October 8.)

Railway Coal Wagons

The L.M.S.R. owns 48,254 12-ton coal wagons. Since 1923 the standard specification of the British railways has not permitted the building of wagons of less capacity than 12 tons for use on the British railways. (Colonel J. J. Llewellin, October 9.)

Welsh Regional Advisory Committee

The members of the Regional Transport Advisory Committee for Wales are: Mr. A. Andrews, Mr. P. J. Lewis, Mr. O. G. Wyan, representing the road haulage industry; Mr. G. Brown, representing the road passenger transport industry; Mr. C. E. Boxall, Great Western Railway Company; Mr. H. Batey, Transport & General Workers' Union. The committee was appointed before the war for the purpose of affording the Regional Transport Commissioner any assistance which he required in connection with the Ministry's war organisation for road transport. It is not intended that it should make formal reports or recommendations. The committee met three times before the war, but it has not been found necessary to call it together since. Since the war the Regional Transport Commissioner has relied mainly on the advice of local consultative committees. These have been set up to assist the commissioner with the special problems which have arisen as to passenger transport in certain localities including the Rhondda Valley. These committees are called together as occasion requires. (Colonel J. J. Llewellin, October 9.)

Railway Shop Canteen

Asked by Mr. Ness Edwards (Caerphilly—Lab.) on October 9 whether he was aware that men at a Caerphilly railway shop, employing some 500 men, engaged on heavy engine repairs and working considerable overtime, had been negotiating for a canteen since the early part of the year, and that so far nothing had been done to provide the facilities asked for; and whether he would take steps to expedite the matter, Mr. Ernest Bevin (Minister of Labour) said he understood the proposal was to convert existing feeding facilities into a canteen at which meals were sold, and that, although there had been some unfortunate delay, arrangements for the immediate supply of light refreshments were being made and a full canteen service should be in operation very shortly.

One Class Railway Trains

It is not the intention of the Minister of War Transport to extend the one class railway travelling outside the London area. In London it is done with trains that start or finish their journey within a special area. In the provinces there are very few such trains. Most of the trains run right through and what in London is called suburban traffic is dealt with in most provincial towns by trams or buses. (Colonel J. J. Llewellin, October 15.)

Highway Code

It is important in the interests of their own safety that pedestrians should observe the rules in the Highway Code, to "Keep to the Left" on the pathway, and "Keep to the Right" on the read. The Minister of War Transport is sorry that he cannot undertake to make this a main issue in the publicity designed to reduce accidents. (Colonel Llewellin, October 15.)

Railway Transport

In order to eliminate unnecessary transport the Ministry of War Transport has been looking closely into the distribution of foodstuffs, including ice-cream, in consultation with the Minister of Food, and steps have already been taken in a number of cases where wasteful use of transport has been found. Meanwhile when railway conditions make it necessary to restrict acceptance of traffic, preference is given to essential commodities. (Colonel Llewellin, October 16.)

Staff and Labour Matters

Railway Wages

Representatives of the Railway Executive Committee met representatives of the National Union of Railwaymen in London on October 15, when the Union submitted a claim that the minimum wage payable to any adult railway employee, male or female, shall be not less than £3 a week, exclusive of any war wage or bonus granted since the commencement of the war. The claim was made in accordance with a resolution of the annual general conference of the union in July last, and at the meeting on October 15, Mr. Marchbank explained the grounds on which the claim was based.

The Railway Clerks' Association announced in the October issue of the *Railway Service Journal* that it has submitted a claim to the Railway Executive Committee that, in cases where women clerks are performing duties similar in character and value to those of male clerks, they should be paid in accordance with the Male Clerical Staff Agreement. A further claim preferred by the Railway Clerks' Association is for an extension of the Class 5 scale by annual increments of £10 to £220 at age 33 and that, in respect of women clerks not covered by the separate claim, corresponding increases be made in the Class 2 women's scale.

Signalling in Finland

The first signalling regulations, issued apart from ordinary public or statutory rules, came into force in Finland in 1870, and were added to in course of time, with the development of the railway system. These additions were not very well worked into the general system of rules, and a year or two ago it was decided to undertake a comprehensive revision of the whole of the rules and regulations concerning traffic working. The signal system adopted in Finland resembled that in Sweden and Russia and was founded on German practice, the fixed signals being of German type. The night signals were, until the recent modification, the same as those used for many years in Germany, down to the end of the last war. Semaphores showed a red light when "on" and green when "off," the distant disc signals showing green or white for the two positions, involving a contradiction in the use of green, which meant "clear" in one signal and "caution" in another. Later, however, flashing lights were adopted for all distants—as in Sweden—to get over this difficulty. In the recent revision opportunity has been taken to standardise green as invariably meaning "clear," thus bringing the working in this respect into line with that now in force in the majority of European countries; but to avoid introducing a new colour, yellow, as they have done, the spectacles in the distant signals have merely been reversed, so that such signals now show a flashing white light for "caution." A steady white light is, of course, a danger signal, when seen in any fixed signal. This use of white for caution, with the special distinction of flashing, is something not seen hitherto in signalling. As the white lights, which are produced by acetylene lamps are so prominent, the all-important "caution" indication of the distant signals is unmistakable and cannot fail to attract attention.

The regulations covering hand and permanent way "C" and "T" signals, have been altered to correspond. Hitherto, backlights of semaphores have been peculiar in Finland, being green for "on" and red for "off." In the new arrangements a very small white light is shown for "on" and a full white light for "off," the exact opposite of the arrangement adopted in Germany and those countries leaning to her methods of working. By adding a green light to the "shunting prohibition" signal, so well known in Central Europe, this can now be used as an interlocked signal for controlling the departure of trains from platforms and sidings, and represents a step towards the adoption of shunting signals, as understood in Great Britain, to which it is certain that the countries still adhering more or less to German ways of working, will eventually be driven to turn, at any rate at busy centres, as has already taken place at many stations in the Scandinavian countries. This decision to do without the yellow signal light, also taken in Sweden, is of interest, as one or two other cases of it have occurred in the past, notably in New South Wales and on the Chicago & North Western Railway; but in both these instances yellow was subsequently adopted on the introduction of colour-light signals.

XUM

Notes and News

Madras Railway Annuities.—It is notified that in accordance with the provisions of the Madras Railway Annuities Act, 1908, a total of £5,735,612 15s. 8d. is now invested in the sinking fund for Annuities Class "B."

New York Japanese Railway Office Closed.—At the beginning of September the Japanese Government Railways closed their traffic office at 630, Fifth Avenue, New York. The first office in New York of the Japanese Government Railways was opened in 1917.

Central Argentine Railway Company.—The Committee of the London Stock Exchange has given permission for dealings to take place in £303 interest certificates (Registered) (Series No. 1), £911 (Series No. 2), and £911 (Series No. 3) of the Central Argentine Railway Company.

Glasgow Railway Hotel Assessment.—In an appeal by the London Midland & Scottish Railway Company before the Glasgow Burgh Valuation Appeal Court on October 10, the assessment of the St. Enoch station hotel was reduced from £4,500 to £4,000. The company had asked for a figure of £3,500.

Airways Companies' Winding-up.—British Airways (Bermuda) Limited and British Airways (Atlantic) Limited give notice that resolutions were passed at extraordinary general meetings held at Clifton on October 8 to the effect that each company be wound up voluntarily and that Mr. K. H. Staple be appointed liquidator.

Huddersfield Corporation Trolleybuses.—The Minister of War Transport has made the Huddersfield Corporation (Extension of Time) Order, 1941 (S.R. & O., 1941, No. 1588),extending by three years the time limited by Section 5 of the Huddersfield Corporation (Trolley Vehicles) Act, 1936, for the commencement of the running of trolley vehicles along certain routes.

Great Southern Railways (Eire).—For the 40th week of 1941 the Great Southern Railways Company reports passenger receipts of £38,947 (against £32,560), and goods receipts of £67,126 (against £56,010) making a total of £106,073 against £88,570 for the corresponding period of the previous year. The aggregate receipts to date are passenger £1,615,259 (against £1,442,995), goods £2,068,072 (against £1,858,338), making a total of £3,683,331 (against £3,301,333).

Government Road Haulage Scheme.—The Minister of War Transport states that after consultation with the Road Haulage (Operations) Advisory Committee, the original plan for the road haulage has been modified by the embodiment of suggestions by the committee, providing for additional vehicles to be available on call, at short notice, to meet emergencies and for a complete partnership with the industry in the operation of the scheme. The organisation which will be put into force as speedily as possible, will consist of: (*a*) a Ministry organisation covering the country, divided into six divisions, and as a first step, sub-divided into 14 areas. This organisation will control the traffic and movement operations of the fleet of vehicles, and it will act as a clearing house for traffic which the Minister accepts; (*b*) an organisation set up and managed by the industry alongside the Minister's organisation which will allocate the traffic which is passed to it by the Ministry's organisation.; (*c*) a series of "defence lines" to meet emergencies and consisting of vehicles belonging to carriers and others who agree to place them at the Minister's disposal at short notice.

Railway Accident in Jugoslavia.—The recent derailment of a train between Leskovac and Nisch, attributed to sabotage, caused the death of ten persons, according to a Reuters message.

Great Southern Railways (Eire) Passenger Train Changes.—Alterations in the local train services between Dublin, Bray, and Greystones came into operation on October 12 with a view to affording a better service for season-ticket holders and others who travel to work in Dublin.

Air-conditioned Cars in the U.S.A.—On July 1 last there were 12,511 air-conditioned passenger carriages in operation in the U.S.A. by class 1 railways and the Pullman Company, according to a statement issued by the Association of American Railroads. This total is an increase of 525 compared with that of July 1, 1940, and an increase of 311 since the beginning of the present calendar year. The total comprises 7,266 owned by the railways and 5,245 by the Pullman Company.

Minneapolis, St. Paul & Sault Ste. Marie Railway.—A plan for the reorganisation of this railway company, which would have the effect of sharply reducing its capitalisation and fixed interest charges was proposed to the United States Interstate Commerce Commission on August 29 by Mr. Ralph H. Jewell. Under the plan the Canadian Pacific Railway would be permitted to purchase at $2 a share 25 per cent. of the common stock of the reorganised company. The commission is to hear arguments on exceptions to the plan on October 28.

C.N.R. War Service Association.—In April last the Employees War Service Association of the Canadian National Railways was formed to co-ordinate the many branches of war work performed by C.N.R. employees. Besides providing garments for C.N.R. men in the service overseas, and undertaking programmes of entertainment in Montreal for seamen awaiting assignment to ships, the association has been active in the gathering and disposal of salvage, the proceeds from which have been earmarked for a Christmas parcel fund which will ensure that every C.N.R. employee from the Montreal area serving overseas will receive a Christmas gift.

B.S. Specification for Concrete Sleepers.—Owing to the increasing necessity for conserving timber and steel, the Ministry of War Transport and other Government Departments are recommending the use of concrete railway sleepers wherever this is practicable, and the railway companies are supporting this effort. The British Standards Institution was, therefore, asked to prepare, in its series of War Emergency Standards, a British Standard Specification for these sleepers, based on a draft drawn up by a committee of the Ministry of War Transport. A fully representative committee was immediately formed by the British Standards Institution, and a specification prepared within a few weeks, which is about to be published as B.S.986-1941. The specification covers sleepers for use with both flat-bottom and bull-head rails, and includes some notes on the use of concrete sleepers. Copies may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s. 3d. post free.

Railway Accidents in Spain.—Eight persons, including the engine driver, were killed and 36 injured when an express train from Salamanca to the Portuguese frontier was derailed at Tejares, in the province of Salamanca, on October 8. According to a Reuters message from Madrid, the engine and a luggage van were overturned and one third class coach was destroyed. Another accident occurred next day, October 9, when a mail train collided with another train at Miranda de Ebro, and the two engine drivers and four other persons were injured. The Minister of Public Works, Señor Peña, addressing 5,000 railway workers at Barcelona on October 8, spoke of the bad state of the railways, and the shortage of equipment, due to the civil war and the impossibility of importing rolling stock and material for renewals.

Electrical Companies Merger Proposal.—A conditional agreement has been entered into between Crompton Parkinson Limited and Young Accumulator Co. Ltd. embodying an offer by the former company to purchase the whole of the issued shares of the latter. The price offered is 2s. 3d. for each fully-paid share of 2s. in the capital of the Young company, 11d. of which is to be paid in cash and the balance of 1s. 4d. is to be satisfied by the allotment of one fully-paid "A" ordinary share of 5s. in Crompton Parkinson for every 15 ordinary shares of 2s. in the capital of the Young Accumulator Co. Ltd. The directors of the Young Accumulator Co. Ltd. have agreed to accept the offer and recommend it to all shareholders.

C.P.R. Airlines.—Operations and organisation of the western air lines acquired by the Canadian Pacific Railway are being merged with that of the parent company. An important unit in the new air services controlled by the C.P.R. is United Air Services Limited, of Edmonton, which with 13 planes operated for 603 flying hours during June last, covering 90,000 miles during that period. Starratt Airways & Transportation Limited, of Hudson, Ontario, now part of the C.P.R.'s general transportation system, handled 29,739 lb. of freight during the week from July 12 to July 18, and also carried 109 passengers to and from the mining regions of north-western Ontario and northern Manitoba. Ginger Coote Airways Limited, Vancouver, another link in the company's air services, is operating five seaplanes. Yukon Southern Air Transport Limited, of Edmonton, is one of the existing air services recently taken over by the C.P.R.

Budapest Underground Extensions Proposed.—The only underground line at present at work in Budapest, the capital of Hungary, is the shallow electric tramway under Andrássy Avenue with 11 stations, which was opened on May 26, 1896. It was authorised two years earlier as a means of overcoming strenuous opposition to proposals for either horse or electric tramways along this famous thoroughfare. The tunnel is only 9 ft. high and the rail level is but 11 ft. 9 in. below the street surface. It is now proposed to modernise this line and to build four more underground lines with a view to coping with the traffic requirements of a population now numbering about 1,600,000. Precise details of the proposed new routes are not available, but it stated that the River Danube will be crossed at four points by a system designed to link the centre of

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the city with the most densely populated suburbs. The total cost of the new works is estimated at between 400,000,000 and 500,000,000 pengös (the par value of the pengö was approximately 28 to the £), and construction is expected to occupy between ten and twelve years.

Mexican Railway Moratorium.—Mr. Justice Simonds sanctioned on October 20 in the Chancery Division a scheme of arrangement between the Mexican Railway Co. Ltd. and the holders of four sets of securities issued from time to time. There was no opposition.

Use of Canals.—Lord Leathers, Minister of War Transport, Colonel J. J. Llewellin, Joint Parliamentary Secretary to the Ministry, Mr. Frank Pick, who recently submitted a report to Lord Leathers after his investigation of conditions of the canal system of this country, and members of the Central Canal Committee of the Ministry, were present at the Ministry of Information on October 16 when a film was exhibited dealing with the development of the inland waterways of this country, and the uses to which they are being put during the war. The film has been made by B.S. Productions Limited, and will shortly be shown in cinemas throughout the country. Facilities for making the film were accorded by the major canal undertakings of the country, including the Manchester Ship Canal. The commentary which accompanies the film describes the development of the inland waterways system in this country.

Mogyana Railways Bonds Redemption.—The Mogyana Railways Company is renewing its offer to purchase three series of its bonds at the price of £34 10s. for each £100 bond. The bonds in question are the Sul Mineira Extensions first mortgage 5 per cent. (1911); the first mortgage 5 per cent. sterling (1914); and the first mortgage 6 per cent. sterling (1927). The total purchase price is to be £1,254,834, which is to be paid to the trustees eight days after the scheme has been approved by the bondholders. This figure is the same as that proposed in June, 1940, which did not become effective. The earlier scheme differed in that £350,000 was to be paid within three months of approval and the balance by monthly instalments of not less than £75,000. Meetings of the bondholders concerned in the new scheme have been convened for Friday, October 31, at Winchester House, Old Broad Street, E.C.

Railway and other Reports

Northern General Transport Co. Ltd.—Interim dividend is 4 per cent. (same).

Ribble Motor Services Limited.—The interim dividend is 4 per cent. (same).

Babcock & Wilcox Limited.—Interim dividend 4 per cent. (same).

South Indian Railway Co. Ltd.—Final dividend on ordinary 1¾ per cent. (nil from surplus profits and 1¾ per cent. guaranteed interest), less tax, making a total of 3½ per cent. for the year 1941.

Stream-Line Filters Limited.—Interim dividend of 3 per cent. (same).

Canadian Car & Foundry Company.—A dividend is announced of 44 cents a share off 7 per cent. preference arrears, leaving arrears at $9.55.

Skefko Ball Bearing Co. Ltd.—An interim dividend of 4d. a share (6⅔ per cent.), tax free, has been declared in respect of 1941, the same as a year ago.

Forthcoming Meetings

Oct. 29 (*Wed.*)—**Buenos Ayres Great Southern Railway Co. Ltd.** (Ordinary general), River Plate House, E.C., at noon.

Nov. 1 (*Sat.*).—**Companhia de Mocambique** (Ordinary general), 10, Largo da Biblioteca Publica, Lisbon, at noon.

Contracts & Tenders

The Mysore Iron & Steel Works, of India, has ordered a 2-8-2 type steam locomotive from the Baldwin Locomotive Works.

The Associated Equipment Co., Ltd., has received an order for 6 Regal passenger vehicles, from David MacBrayne Limited. The vehicles will be delivered when manufacturing facilities permit.

The Chilian State Railways have placed a contract for seven 68-ton electric switching locomotives with the Westinghouse Electric & Manufacturing Company. Delivery is to be made in October, 1942.

The South African Railways & Harbours have placed a contract for 1,000 high-side open-top gondola wagons with the Canadian Car & Foundry Company. These are in addition to the 1,000 wagons previously ordered in May last.

The Denver, Colorado Springs & Pueblo Motorway Inc., a joint subsidiary of the Chicago, Burlington & Quincy Railroad and the Denver & Rio Grande Western Railroad, has ordered two air-conditioned motorcoaches from the a.c.f. Motors Company.

The U.S. Southern Railway System Companies have placed orders for 22 diesel-electric switching locomotives. Of these 5 will be used by the Southern Railway Company, 12 by the Cincinnati, New Orleans & Texas Pacific, 3 by the Alabama Great Southern, and 2 by the New Orleans Terminal.

Contracts placed recently by the U.S.A. War Department for railway equipment include: 4 diesel-electric shunting locomotives with the General Electric Company; 1 diesel-electric and 10 electric mechanical locomotives with the Whitcomb Locomotive Company; and 10 petrol-mechanical shunting locomotives, 5 with the Davenport Besler Corporation and 5 with the Vulcan Iron Works. Orders for goods vehicles include 500 tank cars and 29 fire-control railway vehicles.

British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices Oct. 17, 1941	Prices Rise/Fall
G.W.R.				
Cons. Ord. ...	52	22½	39½	− ½
5% Con. Pref. ...	103½	58	100½	—
5% Red. Pref. (1950)	105½	88	103	—
4% Deb.	107½	90½	110½	+ 1
4½% Deb.	108½	96½	112	+ 2
4½% Deb.	114½	96	116½	+ 1
5% Deb.	124	106	129	—
2½% Deb.	66½	57	66	—
5% Rt. Charge ...	117⅞	97	124½	—
5% Cons. Guar. ...	117	90½	121⅛	+ 1
L.M.S.R.				
Ord.	24⅞	9	15½	—
4% Pref. (1923) ...	60½	21⅛	47½	—
4% Pref.	70½	35	61½	—
5% Red. Pref. (1955)	94½	60	91½	− 1
4% Deb.	101⅛	81	102½	+ 1
5% Red. Deb. (1952)	109½	102	110½	—
4% Guar.	93¼	65	94½	—
L.N.E.R.				
5% Pref. Ord. ...	8⅛	1½	2½	—
Def. Ord.	4⅜	1¼	1½	—
4% First Pref. ...	60	20	46½	—
4% Second Pref. ...	22⅞	6½	17	—
5% Red. Pref. (1955)	80	34½	76½	—
4% First Guar. ...	86½	56	85⅛	—
4% Second Guar. ...	77½	37	75½	—
3% Deb.	73⅞	54½	76⅛	+ 1
4% Deb.	97⅜	74	100½	—
5% Red. Deb. (1947)	107	96⅜	103	—
4½% Sinking Fund Red. Deb.	104	98	101½	—
SOUTHERN				
Pref. Ord.	79	34	60½	− 1
Def. Ord.	22½	7	13½	− ½
5% Pref.	104½	58⅜	98½	—
5% Red. Pref. (1964)	105	85	103½	—
5% Guar. Pref. ...	116½	90	121½	—
5% Red. Guar. Pref. (1957)	114⅞	94	111⅜	—
4% Deb.	106½	84½	108½	+ 2
5% Deb.	122½	100	126½	—
4% Red. Deb. (1962-67)	106	96½	105	—
4% Red. Deb. (1970-80)	106⅜	93	105	—
FORTH BRIDGE				
4% Deb.	95½	87	96½	—
4% Guar.	93½	81¼	96½	—
L.P.T.B.				
4½% "A"	116	103	114½	+ 1
5% "A"	121½	107	123½	+ 1
4½% "T.F.A." ...	105½	101	101½	—
5% "B"	116	102	114½	+ 1
"C"	65½	24	40	− 1
MERSEY				
Ord.	26	18½	20½	—
4% Perp. Deb. ...	92½	86⅜	96½	+ 1
3% Perp. Deb. ...	68	63	70½	—
3% Perp. Pref. ...	57	50½	56	—
IRELAND				
BELFAST & C.D.				
Ord.	4	3	4	—
G. NORTHERN				
Ord.	4½	1½	9¼	+ 2½
G. SOUTHERN				
Ord.	12½	4	6	+ ½
Pref.	15½	6	6½	—
Guar.	36	15	29	+ 1½
Deb.	55½	40	50½	—

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Railway Stock Market

Developments in the war and international affairs have maintained an attitude of caution on the Stock Exchange, where the volume of business has remained at a low level. Nevertheless, the undertone of markets continued to be assisted by the absence of selling pressure. In fact, in many directions, the floating supply of stock remained very small, and consequently prices may be marked up sharply when demand shows improvement. Whereas there was a reactionary tendency in securities of the speculative type, they were not subject to heavy selling, although buying was on a reduced scale. Increased demand was in evidence for front rank investment stocks, and there was widespread expectation that, over a period, the upward trend in British Funds would make further progress. Among home railway issues the general tendency was relatively steady, and movements on balance showed only fractional changes in most of the junior stocks, although various prior charges recorded further gains. Among trustee issues, yields of fully 4 per cent. are still obtainable on Great Western and Southern guaranteed stocks; Great Western preference stock yields nearly 5 per cent. In other directions, L.M.S.R. guaranteed yields fully 4¼ per cent., and the return offered by L.N.E.R. second guaranteed is nearly 5⅜ per cent. It is probable that it will not be possible to estimate dividend prospects of the junior stocks on a satisfactory basis until details are available of the Government's scheme for war damage insurance of public utility companies. Nevertheless, the view prevails that there are reasonable possibilities of these dividends being maintained. If this is confirmed by the full text of the financial agreement, the junior stocks would probably recover rapidly in price. In any case, there is every reason to assume that all preference stocks of the main-line railways, with the exception of L.N.E.R. second preference, will receive their full dividends, unless very heavy air raid damage were experienced in the future. Consequently, L.M.S.R. 1923 preference, and L.N.E.R. first preference, which yield more than 8¼ per cent., would appear to be much undervalued. Nevertheless, in existing conditions, it does not seem likely that these stocks will move strongly against the general market trend. At the current price, L.M.S.R. senior preference returns 6½ per cent., and Southern preference rather more than 5 per cent.

After declining to 39, Great Western ordinary stock rallied to 40 and was unchanged on balance. Moreover, Great Western preference stock remained at par, and there was further buying of the debentures, which rose further from 110½ and 111½. L.M.S.R. ordinary at 15½ was better on balance, and the guaranteed stock improved to 95; the 1923 preference and senior preference at 48 and 61½ respectively were also slightly above the prices ruling a week ago. L.M.S.R. debentures again reflected the better trend in leading prior charges, and were 103½, a rise of a point. Moreover, L.N.E.R. 4 per cent. and 3 per cent. debentures were higher at 101½ and 77½ respectively. Among this railway's guaranteed issues, the firsts gained half-a-point to 86½, but the seconds lost a similar amount to 75. L.N.E.R. second preference, after declining to 16½, rallied to 17, and the first preference, which was down to 46½ at one time, later recovered to 47. As in the case of L.M.S.R. preference stocks, L.N.E.R. first preference is substantially below the highest price touched last year. Similar remarks apply to Southern preferred, which at 61 was virtually the same as a week ago; the deferred stock at 13⅜ was maintained on balance. This railway's 4 per cent. debentures gained 1½ points to 109, and the preference stock was better at 98½. Whereas London Transport prior charges were firm, and the 4½ per cent. "A" improved further to 114½, the "C" stock reacted from 40½ to 39.

A steadier tendency developed in Argentine railway securities, and various debentures and preference stocks recorded fractional gains, including those of B.A. Gt. Southern. The majority of holders are apparently willing to take the long view.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1940-41	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1940	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1940	Prices: Lowest 1940	Prices: Oct. 17 1941	Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	12.10.41	29,150	+ 15,310	41	788,990	700,170	+ 88,820	Ord. Stk.	11½	3½	7½	Nil
	Argentine North Eastern ...	753	11.10.41	ps. 208,500	+ ps.42,400	15	ps. 3,032,100	ps.2,618,400	+ ps.413,700	,,	3¾	1	3	Nil
	Bolivar	174	Sept., 1941	4,137	+ 347	39	34,854	35,970	− 1,116	6 p.c. Deb.	6½	5	6½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	5	6½	Nil
	Buenos Ayres & Pacific ...	2,801	4.10.41	ps.1,181,000	+ ps.11,000	14	ps.17,915,000	ps. 15,649,000	+ ps.2,266,000	Ord. Stk.	4¼	1	6	Nil
	Buenos Ayres Great Southern	5,082	4.10.41	ps.2,329,000	+ ps.647,000	14	ps.29,155,000	ps.26,067,000	+ ps.2,988,000	Ord. Stk.	10¼	3	8½	Nil
	Buenos Ayres Western ...	1,930	4.10.41	ps. 842,000	+ ps.213,000	14	ps.11,110,000	ps 8,640,000	+ ps.2,470,000	,,	8¾	2	6	Nil
	Central Argentine	3,700	11.10.41	ps. 1,900,700	+ ps.549,600	15	ps.27,136,500	ps. 21,022,200	+ ps.6,114,300	,,	8¼	2	6	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4	½	2	Nil
	Cent. Uruguay of M. Video	972	4.10.41	23 866	+ 2,532	14	302,789	251,240	+ 51,549	Ord. Stk.	3¾	¼	5½	Nil
	Costa Rica	188	Aug., 1941	22,983	+ 758	9	47,559	40,856	+ 6,703	Stk.	23½	14	13	15⅜
	Dorada	70	Sept., 1941	12,000	− 200	39	112,750	110,700	+ 2,050	1 Mt. Db.	99	97½	97	6⅛
	Entre Rios	808	11.10.41	ps.300,100	+ ps.68,700	15	ps. 4,481,000	ps. 3,582,900	+ ps.898,200	Ord. Stk.	4	½	4½	Nil
	Great Western of Brazil ...	1,016	11.10.41	13,100	+ 700	41	370,100	401,500	− 31,400	Ord. Sh.	4/-	1/-	¾	Nil
	International of Cl. Amer. ...	794	Aug 1941	$404,818	+ $49,964	35	$3,889,669	$4,079,630	− $189,961	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref	9d.	9d.	½	Nil
	La Guaira & Caracas... ...	22¾	Sept.,1941	6,180	− 2,060	39	58,005	60,300	− 2,295	—	6	4	—	—
	Leopoldina	1,918	4.10.41	31,730	+ 4,205	40	1,036,981	899,942	+ 137,039	Ord. Stk.	2⅛	¼	3½	Nil
	Mexican	483	7.10.41	ps 255,100	− ps.12,100	14	ps. 4,332,800	ps. 3,815,000	+ ps 517,800	,,	2/11½	⅝	¾	Nil
	Midland of Uruguay ...	319	Aug. 1941	12,516	+ 1,310	9	27,026	21,592	+ 5,434	—	—	—	—	—
	Nitrate	386	30.9.41	6,148	− 822	39	107,301	135,087	− 27,786	Ord. Sh.	2¼	1	3	4⅛
	Paraguay Central	274	11.10.41	$3,332,000	+ $492,000	15	$50 361,000	$53 439 000	− $3,078,000	Pr. Li. Stk.	41	36	42¼	7⅛
	Peruvian Corporation ...	1,059	Sept.,1941	77,057	+ 13,209	13	214,265	198,447	+ 15,818	Pref.	4	1	4	Nil
	Salvador	100	28 6.41	c12,723	+ c1,600	52	c804,130	c981,987	− c177,857	—	—	—	—	—
	San Paulo	153½	5.10.41	36,875	+ 7,019	40	1,489,878	1,445,075	+ 44,803	Ord. Stk.	50	23	43½	4⅛
	Taltal	160	Aug., 1941	5,985	+ 3,520	8	9,165	4,550	+ 4,615	Ord. Sh.	15/11½	¾	½	Nil
	United of Havana	1,346	11.10.41	18,020	+ 4,593	15	283,851	233,126	+ 50,725	Ord. Stk.	¾	½	2	Nil
	Uruguay Northern	73	Aug. 1941	1,337	+ 358	9	2,693	1.926	+ 767	—	—	—	—	—
Canada	Canadian National	23,560	7.10.41	1,250,522	+ 250,294	40	45,312,924	36,683,426	+ 8,629,498	—	—	—	—	—
	Canadian Northern	—	—	—	—	—	—	—	—	Perp. Dbs.	86	68	92¼	4⅛
	Grand Trunk	—	—	—	—	—	—	—	—	4 p.c. Gr.	105¾	95⅛	101¼	3⅛
	Canadian Pacific	17,153	7.10.41	829,800	+ 91,000	40	32,521,400	25,108,400	+ 7.413,000	Ord. Stk.	9⅞	4⅛	10⅛	Nil
India†	Assam Bengal...	1,329	—	—	—		—	—	—	Ord. Stk.	99¾	71	100	3
	Barsi Light	202	31.7.41	14,782	− 7,980	18	67,635	56,587	+ 11,048	—	—	—	—	—
	Bengal & North Western ..	2 099	Sept.,1941	231,525	− 4,522	26	1,530,171	1,514,900	+ 15,271	Ord. Stk.	283	234	307	5⅞
	Bengal-Nagpur	3,269	10.7.41	222,300	+ 27,943	14	2,552,246	2,417,662	+ 134,584	,,	96	83⅛	100¼	4
	Bombay, Baroda & Cl. India	2,986	10.10.41	288,975	+ 32,325	27	5,487,225	5,112,900	+ 374,325	,,	108	99	107¼	5⅛
	Madras & Southern Mahratta	2,939	31 7.41	200,250	+ 39,623	18	2,427,279	2,107,868	+ 319,411	,,	104	97⅛	102¼	7⅛
	Rohilkund & Kumaon ...	546	Sept., 1941	41,025	− 4,737	26	347,627	347,049	+ 578	,,	284	238	300	5⅞
	South Indian	2,500	10 7.41	160.572	+ 36,257	14	1,424,269	1,268,823	+ 155 446	,,	93¾	83	97½	4⅛
Various	Beira	204	July, 1941	74,593	—	43	727,546	—	—	—	—	—	—	—
	Egyptian Delta	610	31.7.41	7,912	+ 2,864	18	82,025	56,624	+ 25,401	Prf. Sh.	7/10½	¾	1	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	53	44¼	64	5⅞
	Midland of W. Australia ...	277	May, 1941	17,591	+ 3.683	48	167,924	145,304	+ 22,620	Inc. Deb.	88	80	89½	6⅛
	Nigerian	1,900	28 6.41	44,945	− 12,185	13	697,968	499,238	+ 198,730	—	—	—	—	—
	Rhodesia	2,442	July, 1941	464,690	—	43	4,682,300	—	—	—	—	—	—	—
	South Africa	13,291	16.8.41	785,433	+ 68.629	20	14,684,614	13 246,644	+ 1,437,970	—	—	—	—	—
	Victoria	4,774	June, 1941	953,571	+ 156,386	52	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛

† Receipts are calculated @ 1s. 6d. to the rupee

Argentine traffics are given in pesos

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